

McILNAY

McILNAY & ASSOCIATES, INC.

2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

September 9, 1996

Mr. Frank Matthews
Utah Board of Oil, Gas & Mining
1594 West North Temple
3 Triad Center, Suite 1210
Salt Lake City, Utah 84180-1203

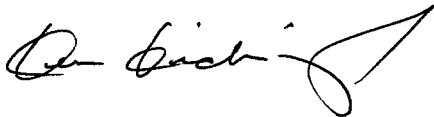
Re: Petral Exploration, LLC , #2 Knockando Unit, Knockando Unit No. UTU 75217X
NW NE SW Section 19-T37S-R25E, San Juan Co., UT

Dear Mr. Matthews:

By this letter we are requesting all drilling, completion and production information on the #2 Knockando Unit be held **CONFIDENTIAL** for the period allowed by the State of Utah.

Sincerely,

McILNAY & ASSOCIATES, INC.

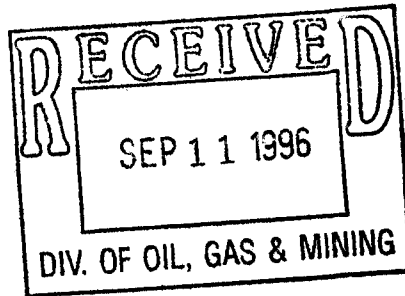


Kenneth P. Kidneigh
Petroleum Engineer

so

cc: Petral Exploration LLC
Rose Exploration Associates

September 10, 1996



Mr. Frank Matthews
Utah Board of Oil, Gas & Mining
1594 W. North Temple, Ste. 1210
Salt Lake City, UT 84180

Re: Application for Exception to R649-3-2 for the Drilling of Petral Exploration, LLC,
#2 Knocknado Unit, NW NE SW Section 19-T37S-R25E, San Juan Co., UT

Dear Sir:

On behalf of our client, Petral Exploration, LLC., we hereby request an exception to the State of Utah Oil & Gas Conservation Rule 649-3-2 to drill well #2 Knockando Unit.

The Oil & Gas Conservation Act, 40-6-1 Et. Seq. Utah Code Annotated 1953 (As Amended 1993), Paragraph R649-3-2, Location and Siting of Wells, states that in the absence of special orders to the contrary, each oil and gas well shall be located in the center of a 40 acre quarter-quarter section with a tolerance of 200' in any direction from the center location, a "window" 400 feet square.

The location requested for this well does not meet those qualifications, and therefore an exception is required. Paragraph R649-3-3 allows for the exception requested to be granted administratively if certain information is provided with the Form 3.

The following information is provided in support of the requested exception:

- 1.1 Petral Exploration LLC respectfully requests that under the provisions of R649-3-3, an exception to R649-3-2 be granted and a permit issued to drill a 5440 foot exploratory well in the NW NE SW, more specifically 2018' FSL and 1388' FWL of Section 19-T37S-R25E (SLM), San Juan Co., Utah.
- 1.2 There are no other owners within a 460 foot radius of the proposed well location. Petral Exploration, LLC is the "owner" of the entire Section 19-T37S-R25E (Federal Lease UTU043651, comprising 1872.48 acres more or less). The requested location is off pattern but does not crowd the lease line, the setback being 1388 feet.

3. The exception is necessary for two reasons: a) because the exploratory target is an Upper Isamy *Ivanovia* algal mound whose dimensions and geographic position (based on 3-D seismic and limited well control) are such that wells drilled on the prescribed pattern would not penetrate maximum buildup of mound facies and would probably be marginal producers or dry holes, and b) terrain and cultural resource (archaeologic) problems force the location off pattern (see attached topographic map which has a 40 foot contour interval which does not depict the ruggedness of the terrain in detail).

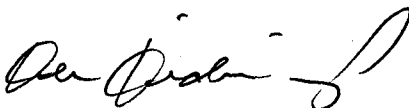
3.1, 3.2, 3.3 Attached is a plat showing locations at which an oil or gas well could be drilled in compliance with R649-3-2 (LL = legal location), the requested exception location (REL) legal direct and diagonal offsets to the requested location (LOL = Legal Offset Location) and a circle having a radius of 960 feet around the requested exception location.

3.4 There are no other owners within a 460 foot radius of the requested exception location.

If administratively approved, please so notify Mr. Gary Torres, Bureau of Land Management, 82 East Dogwood, Suite M, Moab, UT 84532. If administrative approval for this exception location cannot be granted, it is requested that the application be set for the next available hearing before the Utah Board of Oil, Gas & Mining.

Very truly yours,

McILNAY & ASSOCIATES, INC.



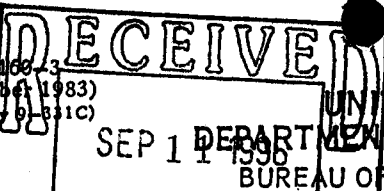
Kenneth P. Kidneigh,
Engineer

KK/so

Attachments

cc: Petral Exploration, LLC
Rose Exploration Associates

*Gary Torres
Notified by phone
9/11/96. R649-2-3*



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DIV. OF OIL, GAS & MINING

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

OTHER

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Petral Exploration, LLC

3. ADDRESS OF OPERATOR

c/o McIlhenny & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604 (307) 265-4351

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

2018' FSL & 1388' FWL (NW NE SW) Sec. 19-T37S-R25E

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approximately 15 miles SE of Blanding, UT

10. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drilg. unit line, if any)

1388'

16. NO. OF ACRES IN LEASE

Lease 1872.48

Unit 3489.44

17. NO. OF ACRES ASSIGNED TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

1380'

19. PROPOSED DEPTH

5440'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5022' GL

22. APPROX. DATE WORK WILL START*

September 26, 1996

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	0.25 Wall	80'	To surface
12 1/4"	8 5/8"	24#/ft.,	2500'	To surface
7 7/8"	5 1/2"	15.5#/ft.,	5440'	220 sks.

Request is made for all informatin to be held CONFIDENTIAL

It is proposed to drill a well at the above location with the primary zone of interest the Upper Ismay Mound Fm. at 5104' TVD. If the well proves productibe, 5 1/2" casing will be cemented in place and the well completed. If the well if found non-productive, it will be plugged and abandoned and the surface restored as per BLM specifications.

See attached "Drilling Program" summary and "Surface Use Program" for details.

I hereby certify that Petral Exploration LLC is responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is provided by BLM Bond No. UT 1040

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Petral Exploration, LLC, Petraro Corp., Manager

TITLE Anthony R. Mayer, Sr. VP

DATE September 10, 1996

(This space for Federal or State office use)

PERMIT NO.

43-037-31780

APPROVAL DATE

APPROVED BY

TITLE

DATE

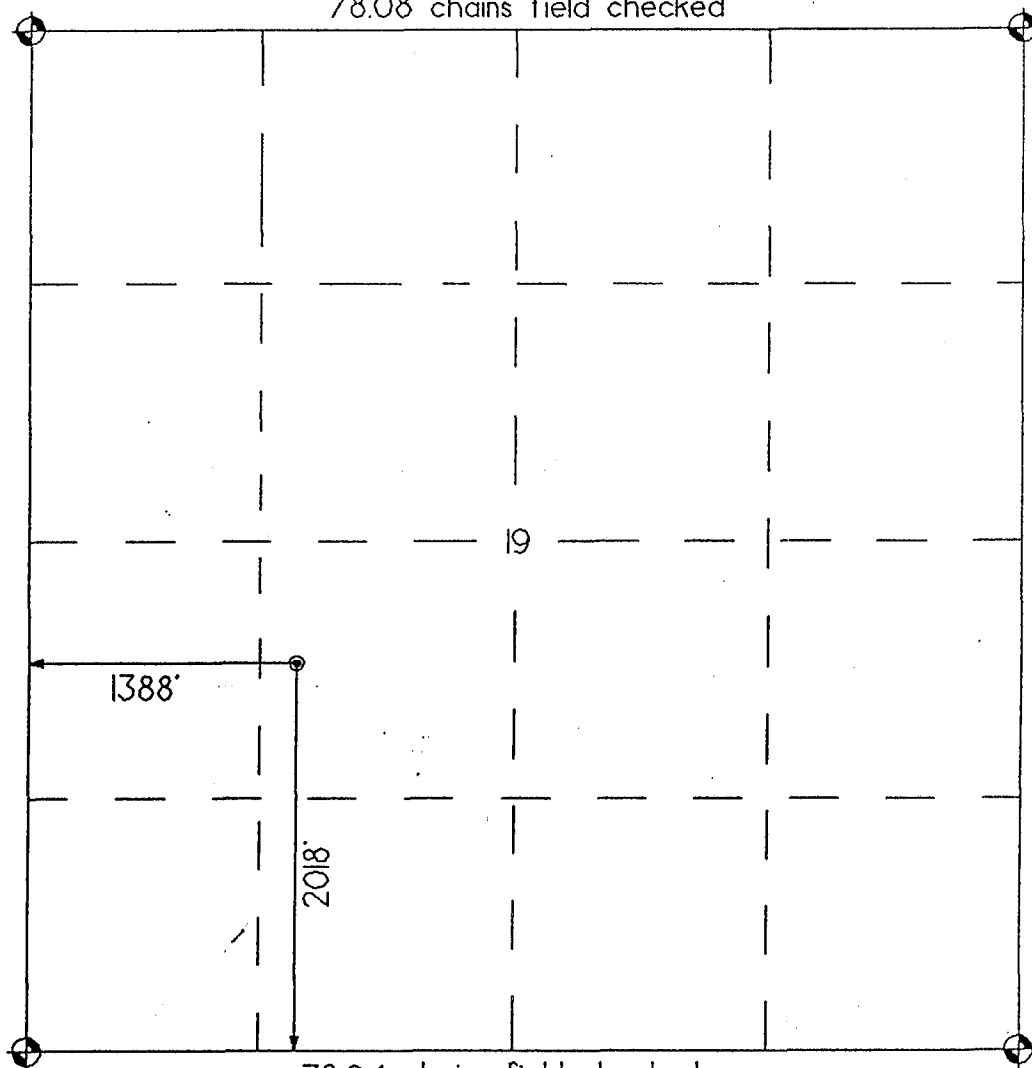
9/30/96

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Well Location Plat

78.08 chains field checked



NORTH

0' 1000'
1" = 1000'



brass cap

□ stone

Well Location Description

PETRAL EXPLORATION

2 Knockando Unit

2018' FSL & 1388' FWL

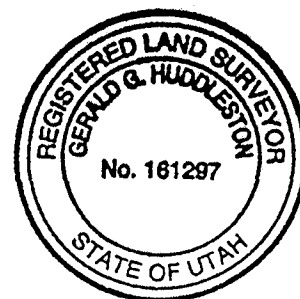
Section 19, T.37 S., R.25 E., SLM

San Juan County, UT

5022' grd. el.

State plane coordinates from GPS survey:

331.230 North & 2.661.689 East



24 August 1996

Gerald G. Huddleston

Gerald G. Huddleston, LS

The above is true and correct to my knowledge and belief.

HUDDLESTON LAND SURVEYING - BOX KK - CORTEZ, CO - (970) 565 -3330



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
324 South State, Suite 301
Salt Lake City, Utah 84111-2303

RECEIVED

NOV 10 1995

IN REPLY REFER TO:

3104

(UT-923)

NOV 7 1995

DECISION

Obligor	:	Bond Amount:	\$25,000
Petral Exploration LLC	:		
P.O. Box 5083	:	Bond Type:	Statewide
Denver, CO 80217-5083	:		Oil and Gas
Financial Institution:	:		
Norwest Bank Colorado, N.A.	:	BLM Bond Number:	UT 1040
1740 Broadway	:		
Denver, CO 80274	:		

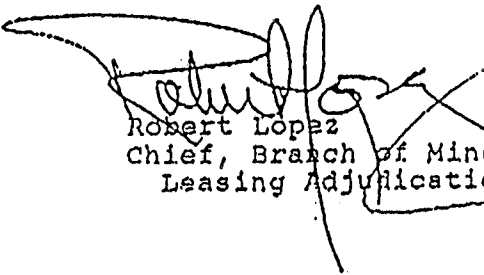
Statewide Oil and Gas Personal Bond and Certificate of Deposit Accepted

On November 6, 1995, this office received Bond Form 3000-4 together with Investment Deposit Agreement (Book Entry) No. 101741006 evidencing the purchase of a \$25,000 Certificate of Deposit (CD) in the amount of \$25,000 to secure a statewide oil and gas bond for the above obligor. Both documents have been examined and are accepted effective November 6, 1995.

The CD will be retained by the Bureau of Land Management (BLM) and will automatically renew annually until all terms and conditions of the leases have been fulfilled or until a satisfactory replacement bond has been accepted by the BLM.

The bond will be maintained by this office. The bond constitutes coverage of all operations conducted by or on behalf of the obligor on Federal leases in the State of Utah. The bond provides coverage of the obligor where that obligor has interest in, and/or responsibility for operations on, leases issued under the authority of any of the Acts cited on the bond form. Please note that Federal leases do not include Indian leases.

If you have any questions, please contact Irene Anderson of this office at (801) 539-4108.

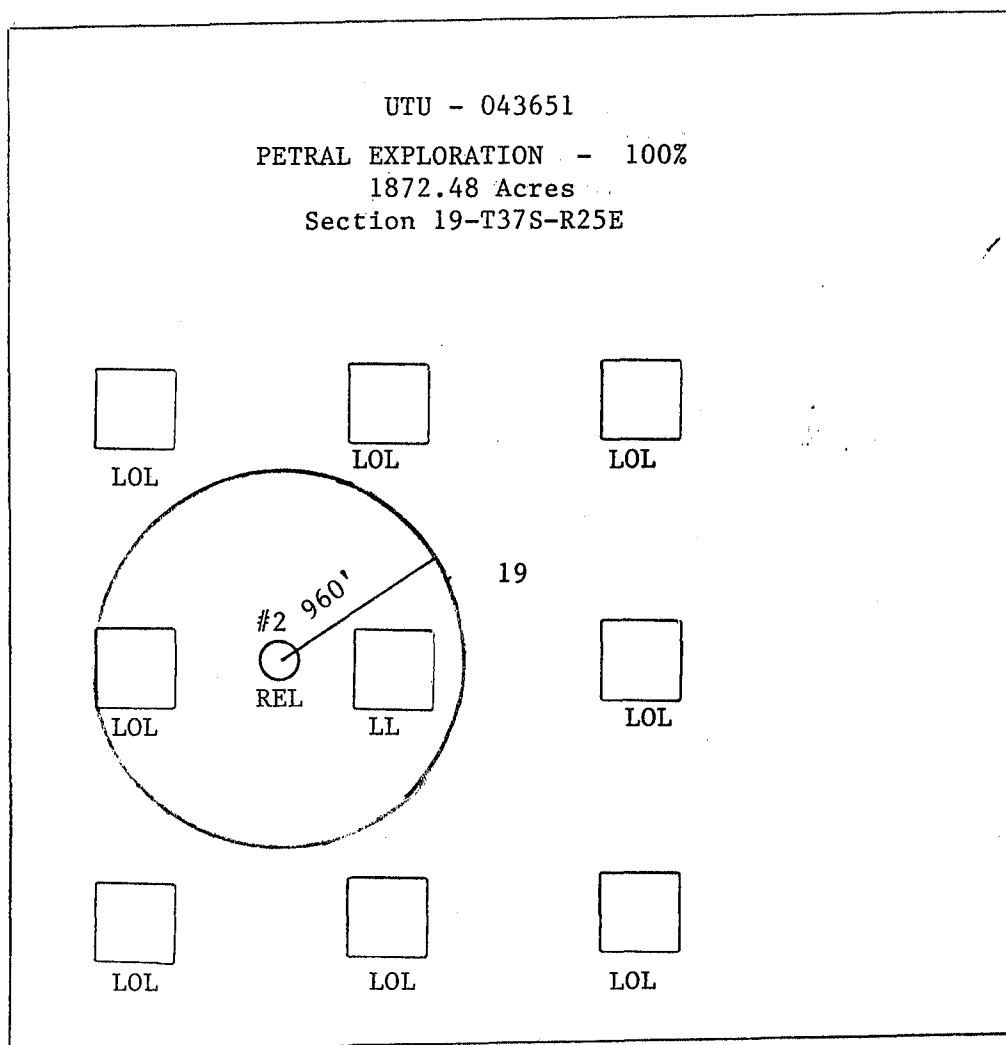

Robert Lopez
Chief, Branch of Mineral
Leasing Adjudication

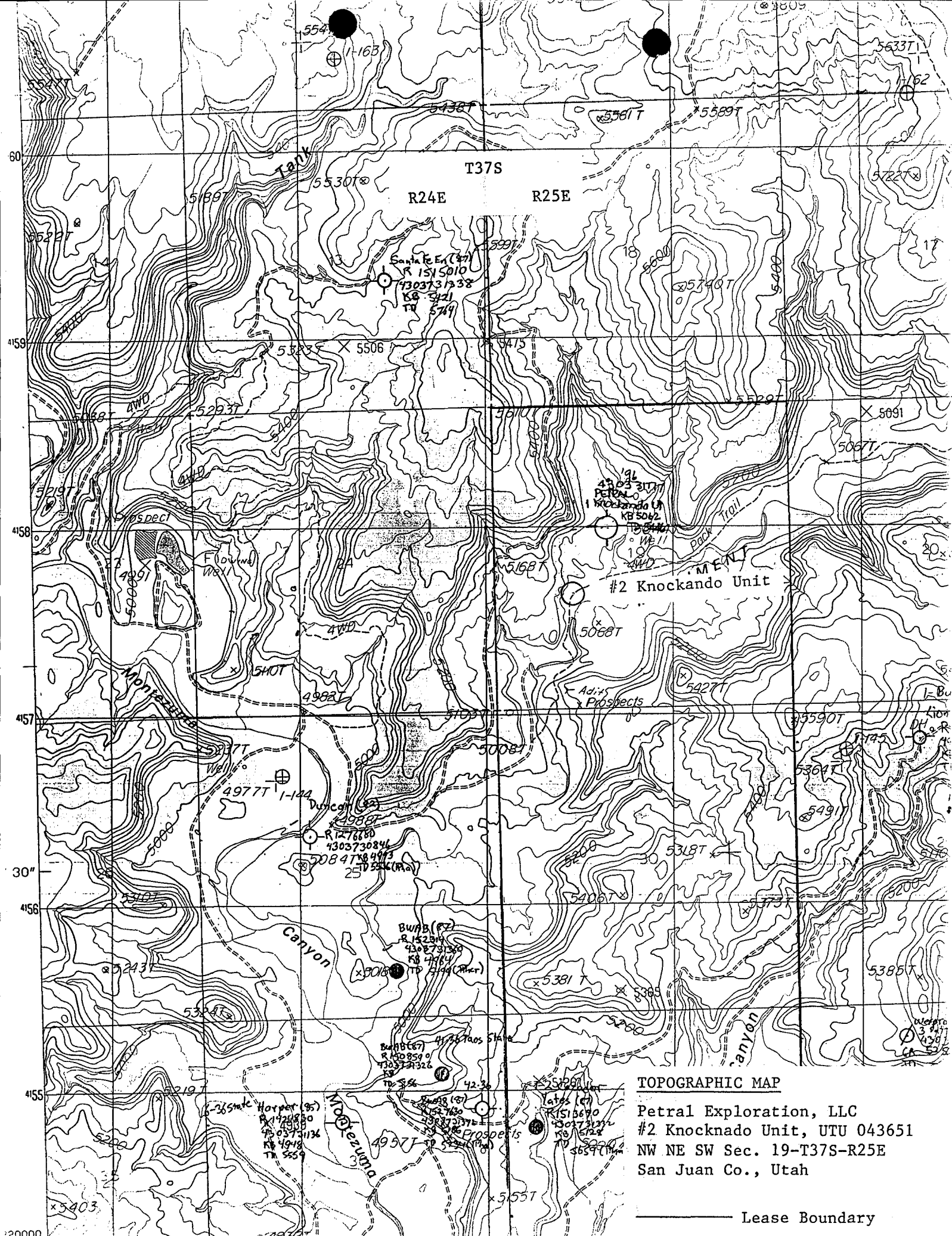
cc: All Districts

Petral Exploration, LLC

Exception Location Request
#2 Knockando Unit
UTU-043651

Scale: 1" = 1000'



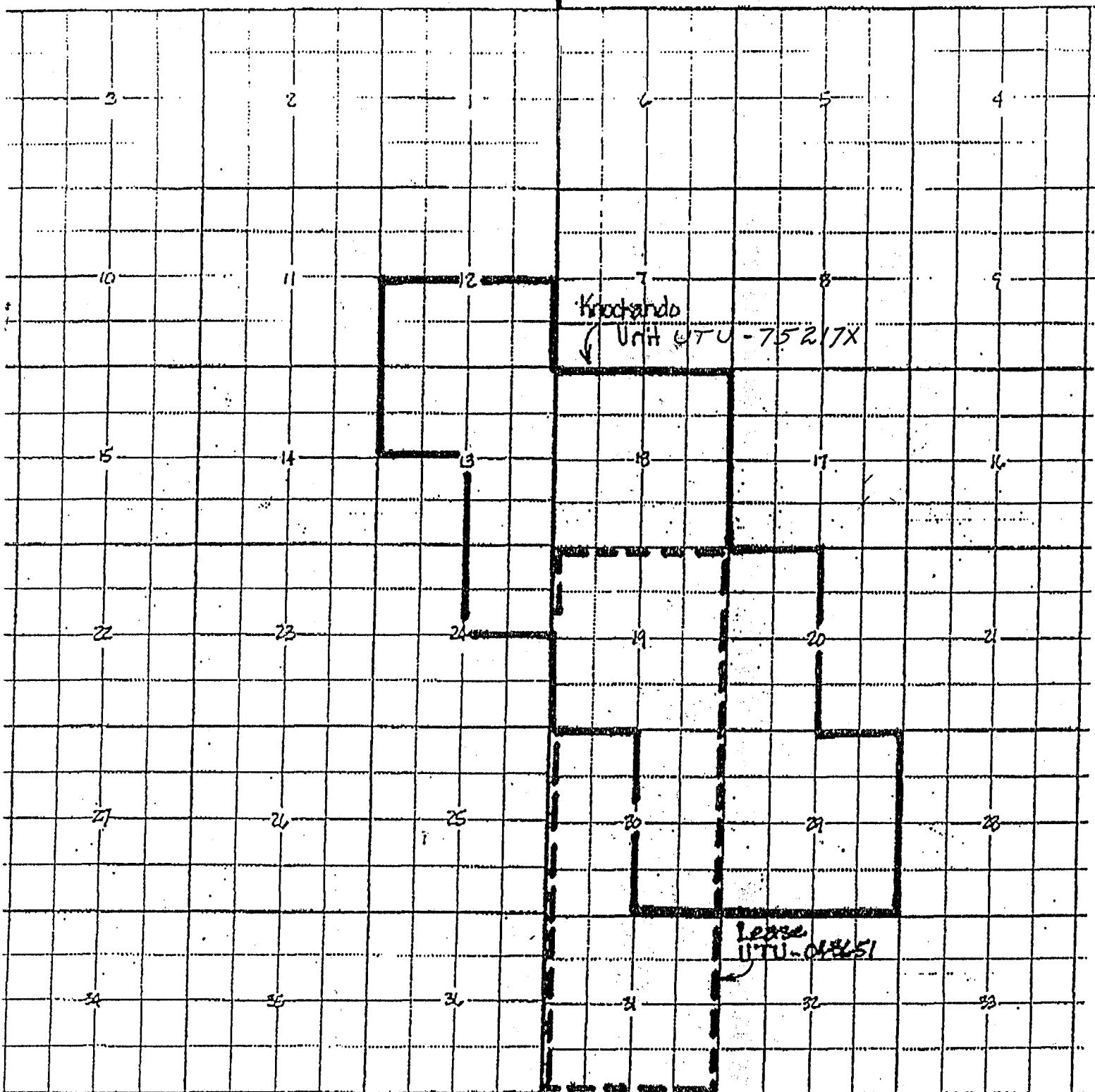


From :

PHONE No. :

Aug. 22 1996 2:36PM P02

COUNTY 37s STATE 24E TOWNSHIP 37s RANGE 25E



Kintzel's, 134 N. Center, Box 741, Casper, Wyoming

Form 50 N. F. 1' = 4000 Feet, In Stock & For Sale By X

San Juan County, Utah

Lease and Unit Boundaries

Knockando Unit, San Juan Co., UT

Fig 2a

McILNAY

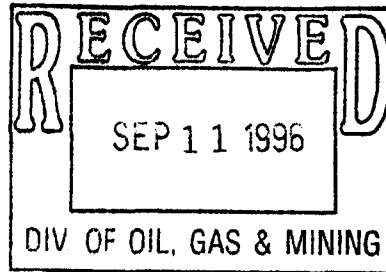
McILNAY & ASSOCIATES, INC.

2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

September 10, 1996



Mr. Gary Torres
Bureau of Land Management
82 East Dogwood, Suite M
Moab, UT 84532

Re: Application for Exception Location and BLM Right-of-Way Grant
Petal Exploration, LLC , #2 Knockando Unit, Knockando Unit No. UTU 75217X
NW NE SW Section 19-T37S-R25E, San Juan Co., UT

Dear Mr. Torres:

The above referenced documents are to be attached to and made part of the APD package for the #2 Knockando Unit well.


The Application for Exception Location has been filed with the Utah Board of oil, Gas & Mining. When the exception has been granted, we will forward a copy of the grant to your office for inclusion in the well file.

The BLM Right-of-Way Grant was issued July 25, 1996. Per a phone conversation 9/10/96 with Katie Juenger, BLM Real Estate Specialist in Monticello, Utah, it grants Petral Exploration, LLC a Right-of-Way to explore their oil and gas leases in Section 19-T37S-R25E, SLM. Copies of the Right-of-Way Grant are attached to this letter.

If you have any questions or comments, please contact us.

Sincerely,

McILNAY & ASSOCIATES, INC.


Kenneth P. Kidneigh,
SO

cc: Mr. Jeff Brown, Monticello
✓ Utah Division of Oil, Gas & Mining
Petal Exploration, LLC
Rose Exploration Associates

RECEIVED
JUL 29 1996

Issuing Office
Moab District
San Juan Resource Area

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RIGHT-OF-WAY GRANT

SERIAL NUMBER UTU-74154

1. A right-of-way is hereby granted pursuant to Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761).

2. Nature of Interest:

a. By this instrument, the holder:

Petral Exploration, LLC
1700 Lincoln Street, Suite 5000
Denver, Colorado 80203

receives a right to construct, operate, maintain, and terminate a road to the #1 Knockando Unit well (Oil & Gas Lease UTU-43651) on public lands described as follows:

Salt Lake Meridian
T. 37 S., R. 24 E.
Sec. 25, S $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$

b. The right-of-way area granted herein is 30 feet wide, 1,100 feet long, with a surface width of 16 feet. The right-of-way contains .71 acres, more or less.

c. This instrument shall terminate on December 31, 2026, unless prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

d. This instrument may be renewed. If renewed, the right-of-way shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandonment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

3. Rental: Waived as provided in 43 CFR 2803.1-2.

For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:

- a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.
- b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.
- c. Each grant issued for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.
- d. The stipulations, plans, maps, or designs set forth in Exhibits A and B, dated July 5, 1996, and attached hereto, are incorporated into and made a part of this grant instrument.
- e. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.
- f. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.
- g. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.
- h. As directed by the authorizing officer, all road segments shall be winterized by providing a well-drained roadway by water baring, maintaining drainage, and any additional measures necessary to minimize erosion and other damage to the roadway or the surrounding public lands.
- i. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan of development

received on July 5, 1996. Any relocation, additional construction, or use that is not in accord with the approved plan of development shall not be initiated without the prior written approval of the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

j. The holder is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the holder is to immediately stop work that might further disturb such materials, and contact the authorized officer. Within five working days the authorized officer will inform the holder as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the holder will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
- a timeframe for the authorized officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the authorized officer are correct and that mitigation is appropriate.

If the holder wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the authorized officer will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the holder will be responsible for mitigation costs. The authorized officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the authorized officer that the required mitigation has been completed, the holder will then be allowed to resume construction.

All cultural resource sites located along the existing road route shall be avoided during all phases of road construction, use, maintenance, and abandonment.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit. PETRAL EXPLORATION LLC, Petrooro Corporation Manager

Dianne Shroyer
(Signature of Holder)

Dianne Shroyer, Vice President

(Title)

July 17, 1996

(Date)

Ther E. Walter
(Signature of Authorized Officer)

AREA MANAGER

(Title)

July 25, 1996
(Effective Date of Grant)

DRILLING PROGRAM

Petral Exploration, LLC
#2 Knockando Unit
Knockando Unit - UTU-75217X
2018' FSL & 1388' FWL (NW NE SW) Sec. 19-T37S-R25E
Lease # UTU 043651
San Juan Co., UT

A. Surface Formation:

Morrison

B. Estimated Formation Tops: - (KB Measurements)

<u>Formation</u>	<u>TVD Depth (KB)</u>
Morrison	Spud
Entrada	213
Navajo	408
Wingate.....	966
Chinle	1186
Shinarump.....	1921
Cutler	2156
Honaker Trail.....	4036
La Sal	4794
Black Shale Marker.....	5015
Shale 1	5060
Upper Ismay.....	5080
Upper Ismay massive anhydrite.....	Absent
Upper Ismay mound.....	5104
Hovenweep Shale.....	5214
Lower Ismay	5248
Lower Ismay anhydrite.....	5265
Gothic Shale.....	5297
Upper Desert Creek.....	5317
Upper Desert Creek anhydrite	5329
Lower Desert Creek	5354
Lower Desert Creek anhydrite.....	5356
Lower Desert Creek mound.....	5365
Chimney Rock Shale.....	5392
Akah	5415
TOTAL DEPTH	5440
Salt	5445

DO NOT PENETRATE

C. Estimated Depths at which Anticipated Water, Oil, Gas or other Mineral-Bearing Formations are Expected to be Encountered:

Hydrocarbon bearing zones may be found from 5104' (Upper Ismay mound) to 5,365' (Lower Desert Creek Mound). Commercial water zones are not anticipated. All formations below surface may contain water. Fresh water zones will be protected through casing and cementing programs (see parts E & F).

D. Minimum Pressure Control Equipment & Auxiliary Equipment:(see attached diagram)

1. One 11" - 3000 psig annular preventer. One 11" - 3000 psig double ram blowout preventor with blind rams and one set of 4 1/2" drill pipe rams (above blind ram) will be installed and utilized prior to drilling below 8 5/8" surface csg. Flow sensor and PVT will be installed prior to drilling below surface casing and utilized to T.D.
2. Blowout preventor or drilling spool will be equipped with one 3" and one 2" side outlet.
3. A 3000 psig choke manifold with two (2) adjustable chokes will be installed prior to drilling below surface casing. The choke line will be as straight as possible and turns, if required, will have a targeted T block.
4. An accumulator rated at 3000 psig W.P. with a minimum of three (3) hydraulic control stations will be utilized. One for annular, one for blind rams and one for pipe rams. Remote controls will be located at the accumulator house at G.L. and on the floor. Manual controls (e.g. hand wheels) will be located at G.L. under the substructure. A valve shall be installed in the hydraulic closing line to serve as a locking device when the accumulator system is inoperative.
5. Pressure testing procedures and requirements. Prior to drilling out below the 8 5/8" surface casing, surface casing will be tested to 2065 psig (70% of minimum internal yield of the 8 5/8", 24#/ft., J-55 surface casing) for a minimum of 15 min. BOP stack and associated equipment (e.g., choke manifold, lower and upper kelly cocks, valves, etc.) will be tested to 3000 psig for 15 min. utilizing a test plug. The annular preventor will be tested to 1500 psig for 15 min. Certified BOP testing service company will be utilized for pressure testing. All pressure testing operations must be witnessed by Petral's well site representative, McIlnay & Associates, Inc..
6. Drilling contractor will perform a daily operational check of all BOP equipment (e.g. includes associated equipment). Pipe and blind rams shall be activated each trip.
7. All BOP pressure testing and operational check will be recorded in the daily "Tour" book.
8. A BOP and pit level drill will be conducted by the drilling contractor weekly and noted in the "tour" report book.

9. 24 hours prior to pressure testing notify the BLM, and Utah Division of Oil, Gas & Mining.

Every 30 days BOP and accessory equipment will be pressure tested to 2000 psig (utilize test plug). Notify the BLM and Utah Division of Oil, Gas & Mining prior to test.

E. Casing Program:

Conductor Casing: 80' of 16" pipe cemented in place to surface.

Surface Casing:

63 Jts. - 2500', 8 5/8", 24 #/ft, J-55, ST&C, "A" Grade (new).

Accessory Equipment

- 1 - 8 5/8" Guide Shoe
- 1 - 8 5/8" Insert Float installed 1st joint above shoe.
- 1 - 8 5/8" Centralizer placed middle of shoe joint.
- 1 - 8 5/8" Centralizer on 2nd collar above shoe.
- 3 - 8 5/8" Centralizer thereafter on every 4th collar for 3 centralizers.
- 9 - 8 5/8" Centralizer thereafter on every 6th collar for 9 centralizers.
- 1 - 8 5/8" Centralizer placed 3rd collar from surface.
- 15 Total Centralizers

Production Casing (New):

Interval	Net-Ft.	Gross-Ft.	Specifications
0 - 5,440'	5,440'	5,500'	5 1/2", 15.5#/ft., J or K-55, ST&C or LT&C, New

Accessory Equipment

To be determined at time of need.

Testing Procedure:

At time of BOP testing and prior to drilling out, surface casing will be tested to 70% of burst pressure for new casing (2065 psig). Production casing will be pressure tested to a minimum of 3000 psig prior to commencement of completion.

F. Cementing Program: Check water quality for all cementing slurries.

Conductor: Cement to surface.

Surface Casing: (Tentative - volumes and types may be changed. Designed to circulate cement to surface - 100% excess.)

Lead Slurry: 875 sks. Halliburton Light Std. (70) w/2% CaCl₂ & 1/4#/sk. Flocele
Slurry yield - 1.95 CF/sk

Tail Slurry: 150 sks. Class "G" cement w/2% CaCl₂ & 1/4#/sk. Flocele
Slurry yield - 1.19 CF/sk

Note: If cement does not circulate to surface, utilize 1" to bring to surface.

Production Casing: (Cement minimum of 1000' fillup above potential pay zone(s))

Preflush: 10 Bbls. fresh water
20 Bbls. mud flush (or equivalent)

Scavenger:
50 sks. Pozmix A (70)

Primary Slurry: 220 sks. Std. Pozmix A (70), w/0.5% Micro Bond M, 2% Halliburton gel, 0.5% Halad 344 & 1/4#/sk. Flocele.

Note: Slurry volume to be recalculated based on hole caliper and number and depth of zones. 25% excess and 7 7/8" hole used for initial calculations.

G. Drilling Fluids:

Depth	0 - 2500'	2500' - 4000'	4000' - 5300'	5300' - T.D.
Wt. - #/gal	8.4 - 8.9	8.4 - 8.9	*18.6 - 10+	*59 - 12+
Vis. - sec.qt.	27 - 40	30 - 35	*234 - 40	*234 - 40
WL - cc	NC	NC	*310 Max	8 - 10
pH	NC	NC	*49.0 - 10	9.5
PV/YP	--	--	6-10/8-16	6-10/8-16
Gels (sec/min)	--	--	1-4/3-9	1-4/3-9
Type System	FWG	FWG/SDF 2000 Sweeps	LSND	LSND

*1 Drill Upper Ismay mound with as low a mud weight as can be achieved. May require weighting up to kill water flows. If required to weight up for water flow, pretreat mud w/10 sks. of Magmafiber lost circulation material prior to drilling or coring the Upper Ismay Mound.

*2 Recommended Viscosity:
Coring - 42-44 sec./qt.
Logging - 50 sec./qt.
DST's - 42-44 sec./qt.

*3 Prior to penetrating the Upper Ismay mound.

*4 Raise pH to 10 prior to drilling anhydrites.

*5 Lower Desert Creek may be overpressured and require a weighted mud system.

Prior to penetrating the Upper Ismay Mound @ 5104' or the Lower Desert Creek Mound add 100 ppm nitrates to the mud system.

Sufficient mud materials to maintain mud requirements and meet minor lost circulation and blowout problems will be on the wellsite. The pits will be monitored on trips to assure that the hole is kept full while tripping the drilling string. A pit volume totalizer (PVT), stroke counter & flow sensor will be utilized below the surface casing setting depth to T.D.

H. Coring, Testing, Logging and Tentative Completion Program:

1. Two \cong 60' cores of Upper Ismay mound at estimated depth of 5,104' TVD. On site geologist to pick core point and samples for analyses.
2. Drill stem tests will be at the discretion of the operator and will be based on shows, logs, hole conditions, etc.
3. If a completion attempt is to be made, 5 1/2" casing will be cemented into place. The following presents a summary of tentative completion procedures.
 - a. Perforate pay zones with approximately 4 shots/ft.
 - b. Perforations may be stimulated w/HCl acid.
 - c. A Sundry Notice will be filed with the final completion plan.

Note: All perforations and the size of stimulation jobs are tentative and final design will be based on electric logs, cores, and drill stem test data.

4. Logging:
 - GR-DLL-MSFL (min) - Base surface casing to T.D.
 - GR-BHCS (long spaced integrated) w/Cal - Base surface casing to T.D.
 - GR-FDC-CNL-w/PE (min.) - Base surface casing to T.D.
 - SHDT or FMI- Minimum run

5. Samples:
 - 30' samples from 1,335' - 4,000'
 - 10' samples 4,000' to TD

All cutting samples are to be washed and stored in properly marked cloth bags. Tie the sample bags in 100' depth groups to dry. Store in a clean, dry place. Sample depth intervals may be changed at the discretion of the geologist.

I. Abnormal Conditions or Potential Hazards:

Potential problems include possible water flows to 4794'; abnormal pressure in Lower Desert Creek Carbonate (3500 psig); lost circulation and seepage from surface to TD w/possible differential sticking. Estimated temperature at T.D. 140⁰ F. Hydrogen sulfide gas is not anticipated.

J. Auxiliary Equipment Required: See Paragraph D.

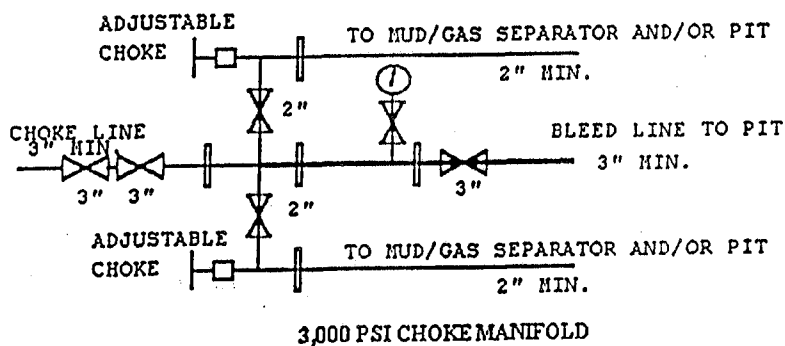
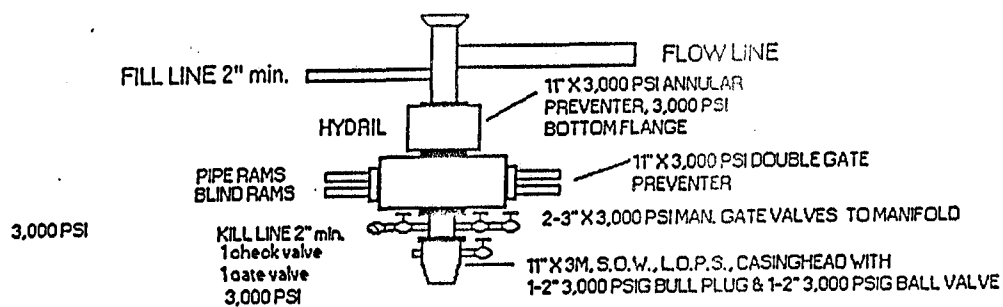
K. Anticipated Starting Date of Drilling Operations:

Plan to start drilling \approx September 30, 1996. 15 days should be required to drill, test, log and set casing.

L. Additional Considerations

None.

BOP EQUIPMENT
3,000 PSIG W.P.



SURFACE USE PROGRAM

**Petral Exploration, LLC
#2 Knockando Unit
Knockando Unit - UTU-75217X
NW NE SW Sec. 19-T37S-R25E
Lease UTU 043651
San Juan Co., UT**

A. Existing Roads

1. To visit the wellsite, proceed south for 1 mile from the Comfort Inn in Blanding, Utah and turn left at Ameri-Gas on 700 E Brown Canyon Road. Continue 1 mile to County Road #206 and turn right. Stay on Co. 206 for 8.5 miles (keep to left at fork) and go an additional 14 miles (total of 22.5 miles on Co. 206) to the old compressor station at the Montezuma Canyon Road, (Co. Rd. 146). Turn left and go north 4.4 miles and cross the creek bed. Turn right and go 1.1 miles to the fence and a "Y" in the road. Keep left and go about 1 1/2 miles to the location.
2. Existing roads are paved, gravel or dirt and are suitable for heavy loads. Existing roads, excluding those maintained by the State or County, will be maintained in the same or better condition. Petral will participate in any cooperative agreement that currently exists, or might be required in the future, to improve and maintain the existing roads. The access road will not cross Indian lands. With the exception of State or County maintained roads, the existing roads are on Bureau of Land Management and land owned by Guy Tracy, Box 763, Monticello, Utah.
3. Proposed wellsite and access roads: See Figures 1 - 3.

B. Access Roads to be Constructed or Reconstructed:

See Figure 2. The last 1.5 miles to the location is a newly constructed access road to the #1 Knockando Unit. This road will be upgraded and graveled as needed if production is obtained.

C. Existing Wells within a One-Mile Radius(See Figure 2)

- | | | |
|----|------------------|------|
| 1. | Water Wells: | One |
| 2. | Injection Wells: | None |
| 3. | Abandoned Wells: | None |
| 4. | Disposal Wells: | None |
| 5. | Producing Wells: | None |
| 6. | Drilling Wells: | None |

D. Location of Existing and/or Proposed Facilities if Well is Productive:

1. Facilities Required in the Event of Production on Well Pad:
 - a. Location of Facilities:
See Figure 5 for location of facilities. All facilities will be on the wellsite pad. Production facilities (including dikes) will be placed on the cut portion of the location (Figure 5).
 - b. Dimension of Facilities:
Production pad a maximum of 200' x 305' (See Figure 5). A heater treater will be located approximately 120' north of the well. Two 300 or 400 bbl. oil storage tanks will be located approximately 80' east of the heater treater and 120' northeast of the well. The dikes for the production facilities will be constructed of compacted subsoil, hold 1 1/2 times the capacity of the largest tank, and be independent of the back cut. That portion of the drilling pad that is not needed for production will be rehabilitated.
2. Facilities Required off Well Pad in the Event of Production:
Upgrade and maintain access roads as necessary to prevent soil erosion and accommodate year-around traffic.

E. Location and Type of Water Supply: (See figure 1)

1. The water will be trucked from artesian wells located in Section 1-T38S-R24E. Permits will be obtained from the State Engineer.
2. The water source is not located on State land. Water will not be obtained from Indian projects.
3. A water well will not be drilled.

F. Construction Materials:

1. Native soil will be utilized in the drilling site and access road. Recently built access road (1.5 miles) will be graveled as needed with pit run gravel if a producing well is obtained. Additional gravel may be needed for the pulling unit pad and wellsite if the well is found to be productive.
2. No construction material from Indian lands.
3. Crushed rock, if necessary, will be purchased from construction contractors in the area from existing gravel pits and hauled over access roads shown on Figures 1 & 2.

G. Methods for Handling Waste Disposal:

1. Cuttings:
Reserve pit 75' x 125' x 10' (3:1 slope) fenced on three sides during drilling operations. The pit will be lined with 24 tons of bentonite worked in with a cat. The fourth side will be fenced when the rig moves out (See Figures 3-6).
2. Drilling Fluids:
Reserve pit 75' x 125' x 10' (See figures 3 & 4). The reserve pit will be constructed to prevent the collection of surface runoff.
3. Produced Fluids:
 - a. Recovered during drill-stem tests will be disposed of in a test tank.
 - b. During completion, produced fluids will be contained in swab tanks (Figure 6.)
 - c. Water disposal will be provided in accordance with BLM Onshore Order No.7.
4. Sewage:
Porta potty with tank or portable sewage treatment plant (i.e. On Site Sewage Treatment, Inc.) capacity of 700 gal/day of treated water disposed of into reserve pit. Any other sewage will be removed from the location by a commercial service. Sewage treatment plant will be used for on-site trailers.
5. Garbage and Trash:
 - a. An enclosed trash bin will be utilized.
 - b. Engine oil and lubricants will be collected in containers.
6. Clean-up of Wellsite Area after Rig is removed
 - a. ✓ Trash will be carried off site for disposal.
 - b. All pits and wellsite will be covered, leveled and reseeded as per BLM instructions.

H. Ancillary Facilities: None.

I. Wellsite Layout:

1. Cross section: See Figure 3 for elevations and cross section. Maximum cut is approximately 6' at the north corner of the drilling pad and 15' in the southwest corner of the reserve pit. Maximum fill is 7' at the south corner of the drilling pad.
2. Orientation of rig, pits and associated equipment (See Figure 4).
3. Six inches of topsoil will be removed from the location (drilling pad) including areas of cut and fill. Soil will be stockpiled adjacent to the wellsite pad (See Fig.3).
4. Access road, living facilities, parking area, etc. (See Figure 4).

J. Plans for Restoration of Surface:

1. All pits will be backfilled, leveled and contoured to as near the current condition as is practical.
2. Revegetation and rehabilitation of the wellsite and access road as per BLM specifications.
3. All pits will be fenced until dry and then backfilled.
4. If oil is present on the reserve pit, overhead flagging will be installed.
5. Rehabilitation will be commenced when the rig moves out with the location restored by Fall, 1996. Complete fall seeding after September, 1996 and prior to ground frost. Rehabilitation will be completed by November 1, 1997.

K. Surface Ownership:

1. Access roads:
See Figures 1 & 2 Bureau of Land Management (on lease) and Guy Tracy. An easement has been obtained from Guy Tracy across portions of Section 25-T37S-R24E.
2. Well Location:
Bureau of Land Management - See Figures 1 & 2.

L. Other Information:

1.
 - a. BLM to be notified 48 hours prior to starting dirtwork.
 - b. Wellsite and access road are located in arid, sandy, hilly terrain.
 - c. Soil is shallow, sandy, and silty.
 - d. Vegetation consists of very sparse native grasses and sparse sagebrush, and small trees.
 - e. The area is a natural habitat for wildlife (i.e., deer, antelope, rabbits, etc.).
2. Livestock were grazing in the area when the wellsite was visited.
3.
 - a. Intermittent streams (i.e., flow during wet seasons of the year) do exist in the area
 - b. There are no occupied buildings within one mile of the proposed wellsite.
 - c. Historical, cultural and archeological survey has been conducted by 4 Corners Archeological Services. No cultural or archaeological evidence was discovered in the area of the access road and wellsite. Due to nearby archeological features and the possibility of buried archeological features, an Archeological Monitor will be present during the construction of the road and location.

M. Lessee's or Operators Representative and Certification:

Operator

Petral Exploration, LLC------(303) 832-3131
P. O. Box 5083
Denver, CO 80202

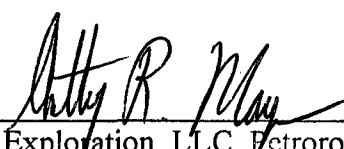
Representative

McIlnay & Associates, Inc.------(307) 265-4351
2305 Oxford Lane
Casper, WY 82604

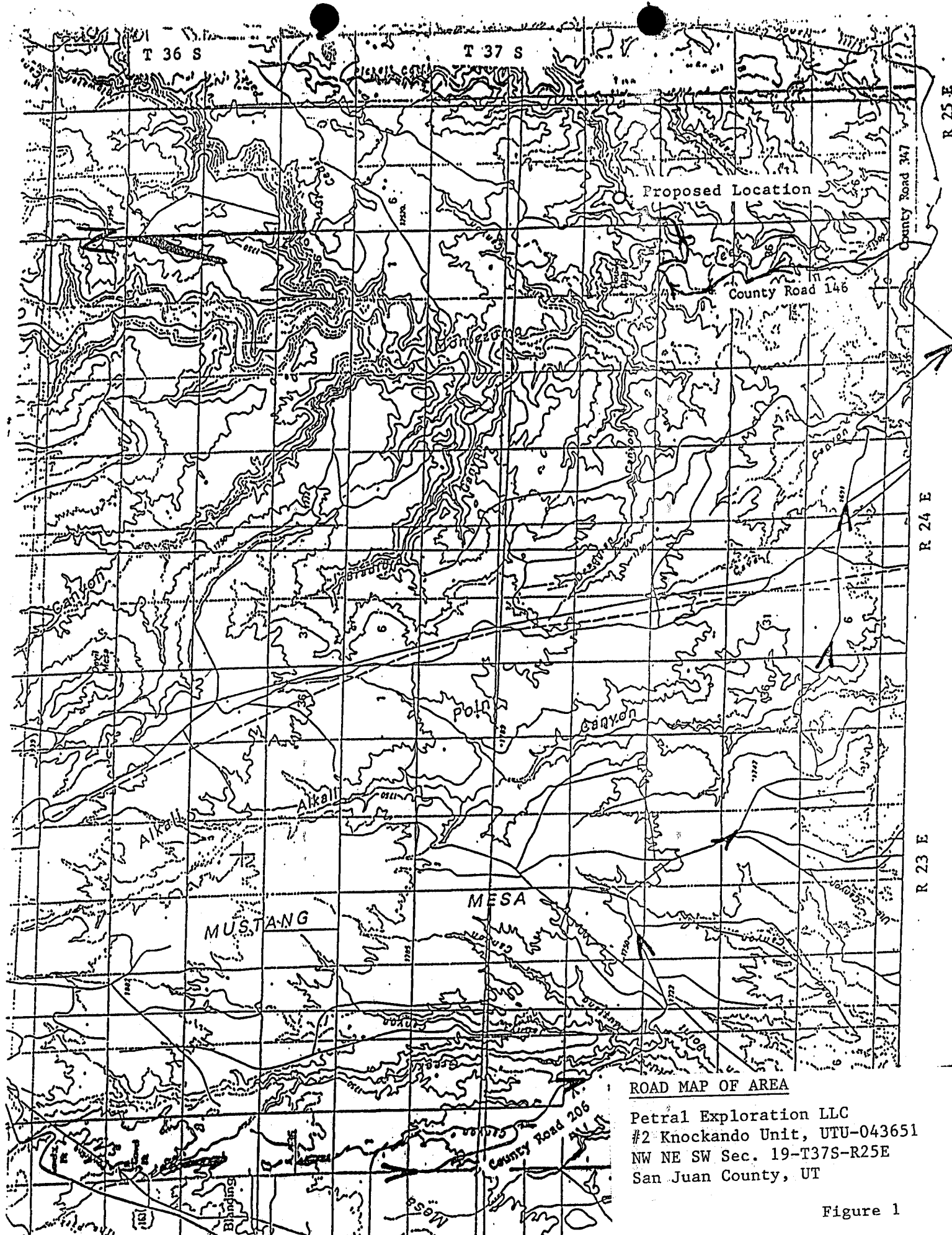
I hereby certify that I or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Petral Exploration, LLC and its' contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date

9/10/96



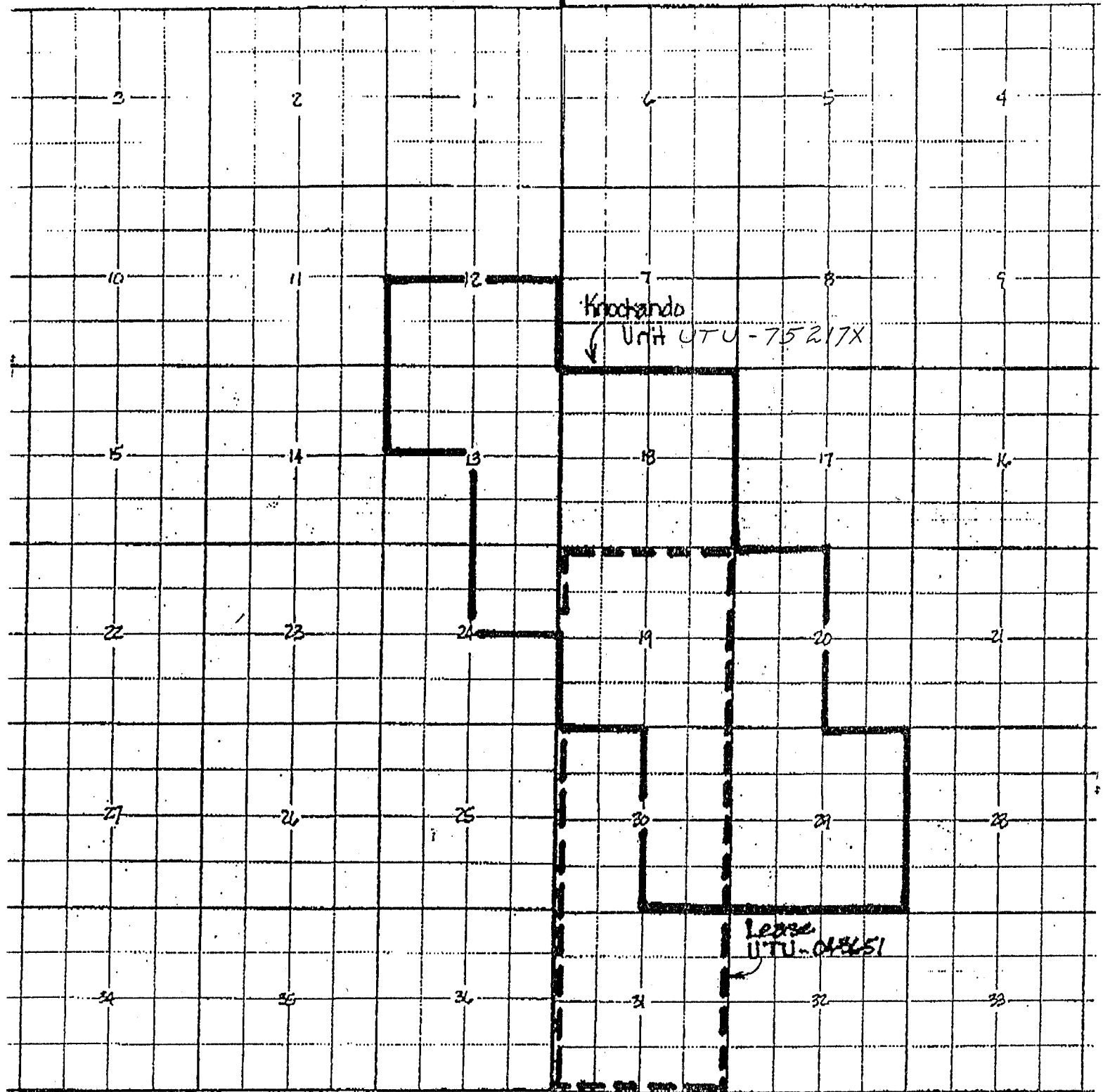
Petral Exploration, LLC, Petroco Corp., Manager
Anthony R. Mayer, Senior Vice President



ROAD MAP OF AREA

Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 1

COUNTY 37s STATE 24E TOWNSHIP 37s RANGE 25E

by Kintzel's, 134 N. Center, Box 741, Casper, Wyoming

Form 50 N. F. 1" = 4000 Feet. In Stock & For Sale By K

San Juan County, Utah

Lease and Unit Boundaries

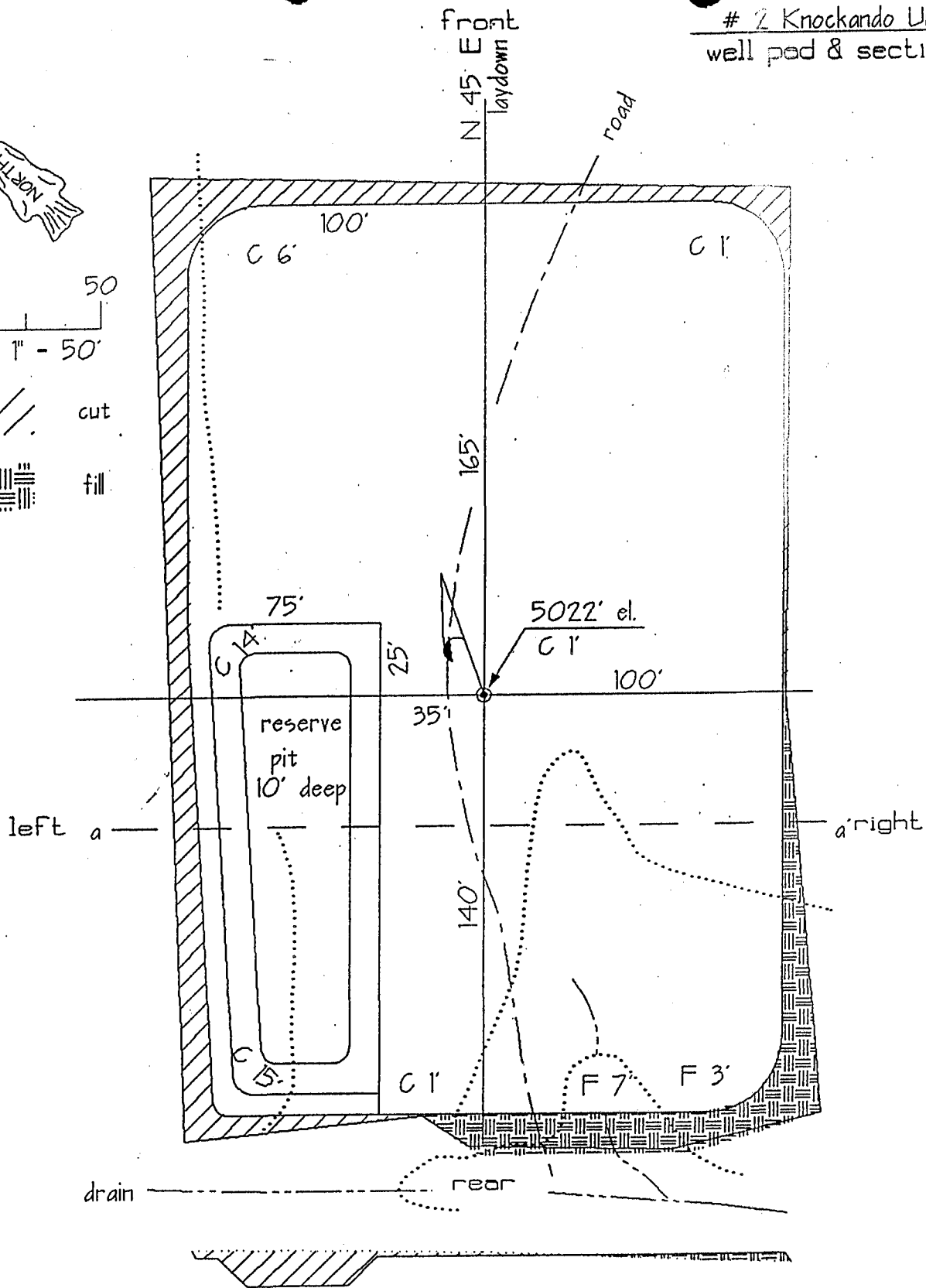
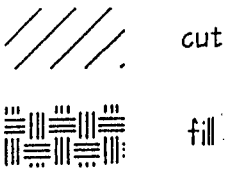
Knockando Unit, San Juan Co., UT

Fig 2a

2 Knockando Unit
well pad & section



0' 50'
Scale 1" = 50'



a

Cross section

a'

PAD & PIT LAYOUT

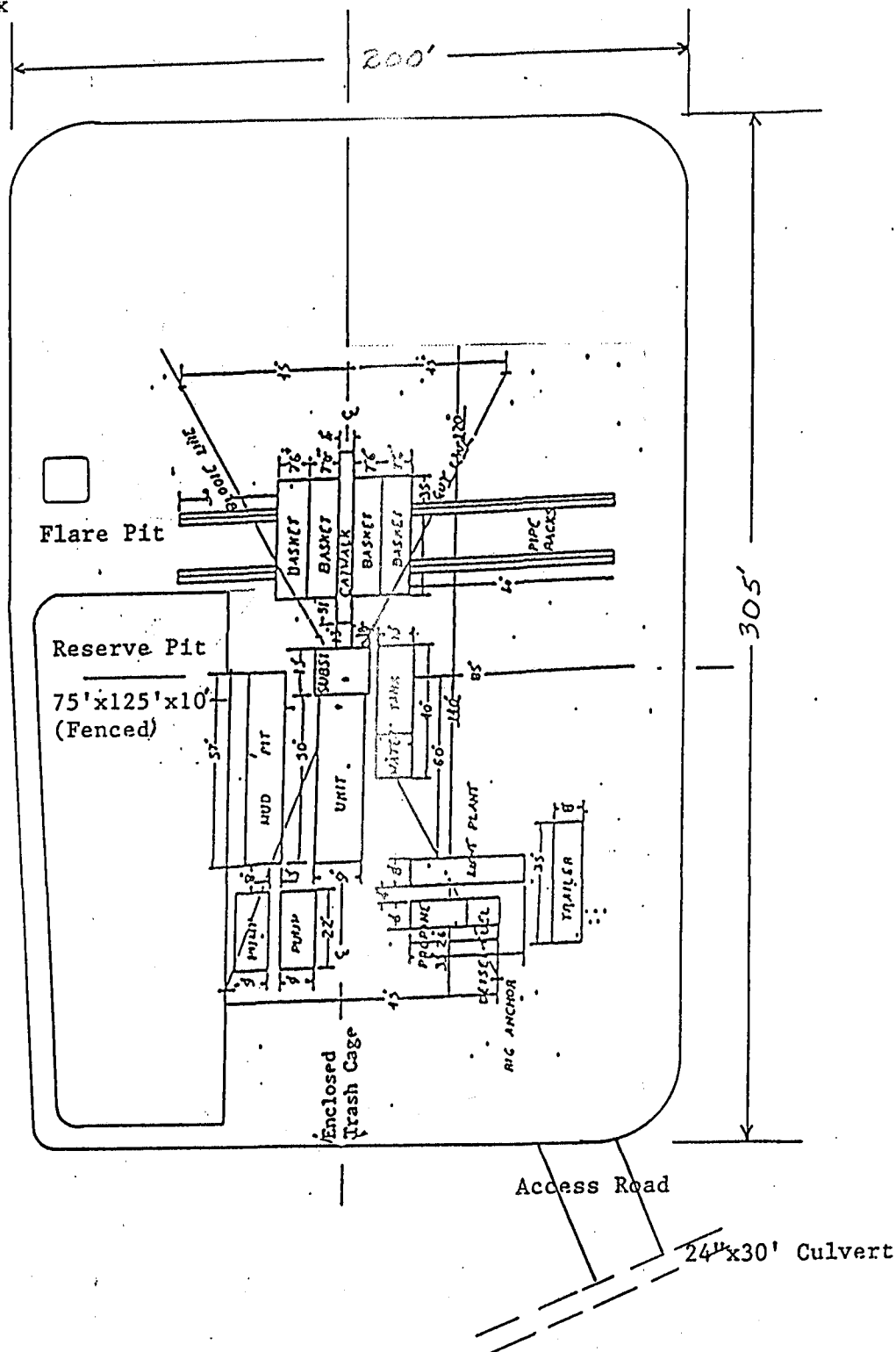
Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 3

Fenced Off
Archeological Site

North

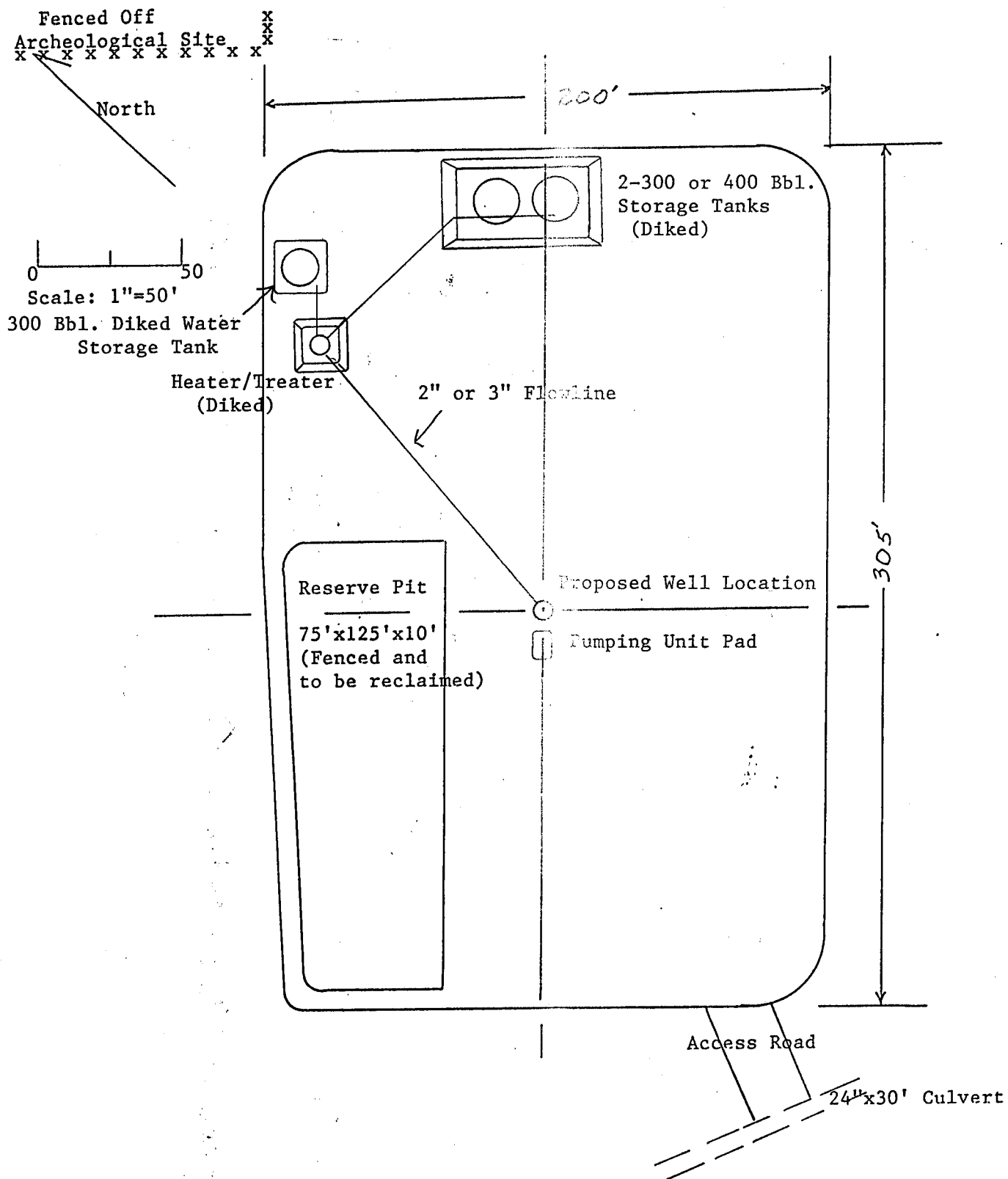
0 50
Scale: 1"=50'



RIG LAYOUT

Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 4



PRODUCTION FACILITIES

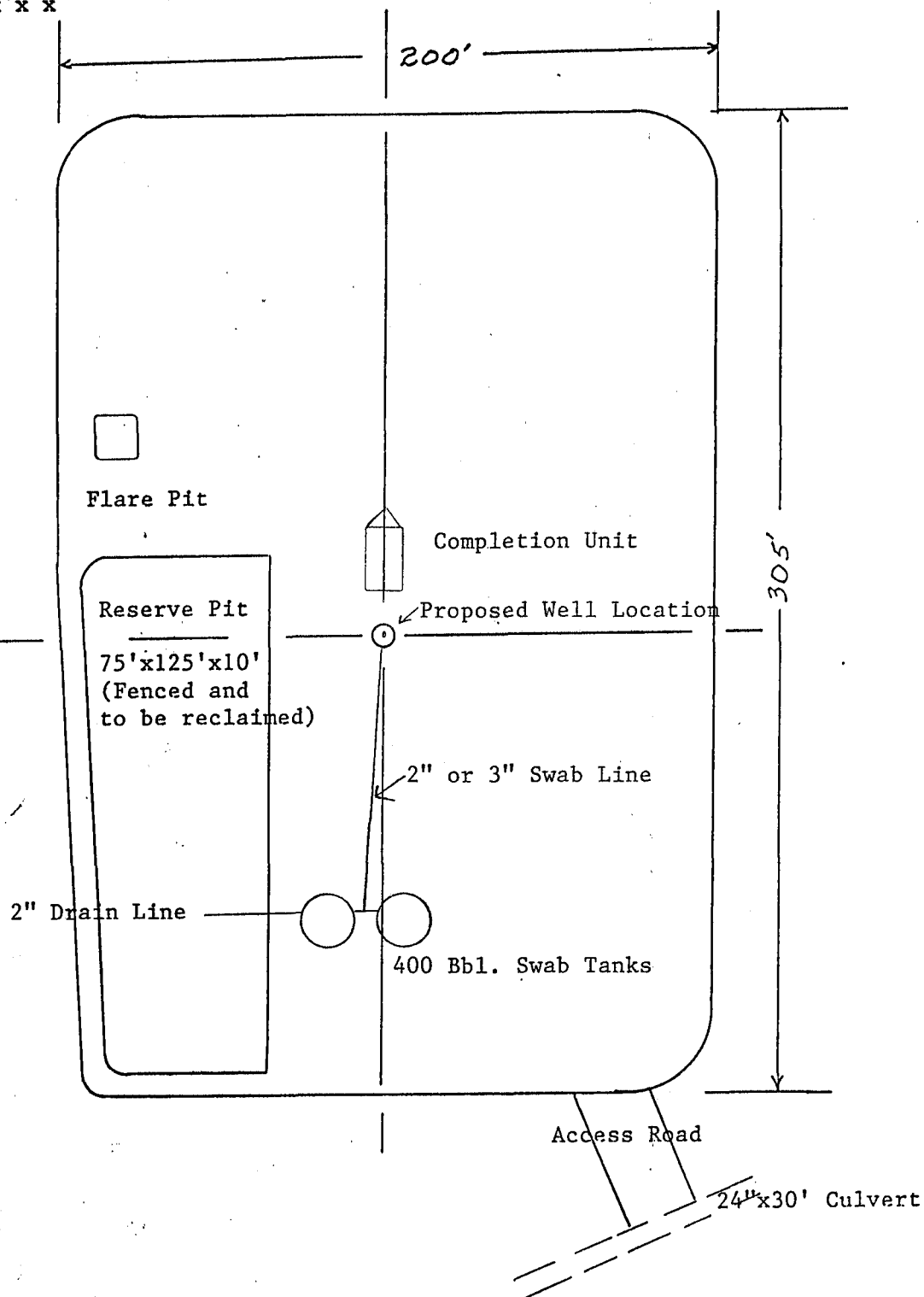
Petral Exploration LLC
 #2 Knockando Unit, UTU-043651
 NW NE SW Sec. 19-T37S-R25E
 San Juan County, UT

Figure 5

Fenced Off
Archeological Site

North

0 50
Scale: 1"=50'



COMPLETION LAYOUT

Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 6

RIGHT-OF-WAY GRANT

KNOW ALL MEN BY THESE PRESENTS:

THAT, Guy C. Tracy and Virginia D. Tracy, husband and wife, of P. O. Box 763, Monticello, Utah 84535; hereinafter referred to as "Owner", for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration in hand paid by Petral Exploration LLC, of P.O. Box 5083, Denver, Colorado 80202, hereinafter referred to as "Operator", the receipt of which is hereby acknowledged, does hereby grant unto Operator, its successors and assigns, a right-of-way and easement for the right to use, operate, maintain and/or construct roadways across the following described land situated in the County of San Juan, State of Utah, to wit:

Township 37 South, Range 24 East, SLM

~~Section 23: SE1/4, NE1/4, G.T.~~

~~Section 24: W1/4SW, G.T.~~

Section 25: SWNE, NW, ~~SESW, SESW~~ G.T.

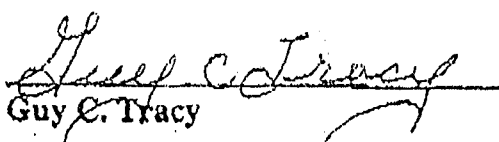
Operator, including employees, agents, licensees and invitees, its successors and assigns shall have the free and exclusive right and privilege to travel upon, and use said roadways in any lawful manner, including, but not limited to, the transportation of persons, materials, supplies and commodities. It is hereby understood that Owner shall have the right to use and/or cross any such roads at any time and manner as may be done without injuring or damaging said roads or inhibiting the reasonable operations conducted by the Operator hereunder.

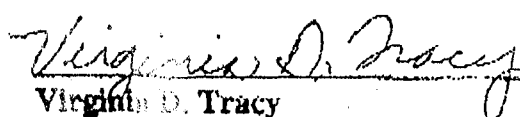
For the use of this roadway across the lands of Owner, in connection with Operators drilling or other operations, Operator agrees to pay the Owner an annual payment of \$1,000.00. This annual payment is for the express purpose of utilizing any current roads, which traverse said lands, during the normal course of oil and gas operations conducted by the Operator, its successors, agents, and assigns. Said consideration also entitles the Operator, its successors, agents and assigns, to improve, construct and/or maintain lease roads to its well locations in order to produce commercial quantities of oil and/or gas.

This annual payment will allow the herein granted right-of-way and easement to be used by the Operator, its agents, employees, and assigns for so long as the annual payments of \$1,000.00 are being made. Any additional wells utilizing this roadway shall fall under this agreement and annual payment schedule, and no additional payments will be due hereunder. The annual payment provided for herein shall be due and payable on the anniversary date of this agreement.

This instrument shall inure to the benefit of and be binding on the parties hereto, their respective heirs, personal representatives, successors and assigns.

This instrument is dated June 7, 1996.


Guy C. Tracy


Virginia D. Tracy

McILNAY

McILNAY & ASSOCIATES, INC.

2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

September 9, 1996

San Juan County Road Department
P. O. Box 188
Monticello, Utah 84535

Re: Application for Right-of-Way Encroachment Permit for
Access Route to Petral Exploration, LLC.,
Knockando Unit #2, NW NE SW Sec. 19-T37S-R25E
San Juan County, Utah

Dear Sir:

On behalf of our client, Petral Exploration, LLC, enclosed is our application for the subject
Right-of-Way Encroachment Permit.

Please advise if you need additional information.

Very truly yours,

McILNAY & ASSOCIATES, INC.



Ken Kidneigh,
Engineer

KK/so

Attachment

cc: Petral Exploration, LLC
Rose Exploration Associates

SAN JUAN COUNTY ROAD DEPARTMENT
835 East Highway 666
Post Office Box 188
Monticello, Utah 84535
(801) 587-3230

Application for Right-of-Way Encroachment Permit

Date September 9, 1996

TO: San Juan County Surveyor/Engineer
Post Office Box 188
Monticello, Utah 84535

Application is hereby made by: (1) Petral Exploration, LLC
c/o McIlnay & Associates, Inc.
Address (2) 2305 Oxford Lane, Casper, WY 82604

Telephone Number: (307) 265-4351 for permission to do the
following: (3) Move in a drilling rig and other equipment as
needed for drilling, completing and producing a well located
in the NE SW Sec. 19-T37S-R25E, San Juna Co., UT utilizing
County Roads 206 and 146.

(4) Location: _____

As above

City Blanding County San Juan State Utah
or U.S. Highway No. NA Milepost No. NA in accordance
with the attached plan. (5)

(6) Construction will begin on or about NA 19 and
will be completed on or before 19 .

If the proposed installation requires breaking of the
pavement, give the following information:

- a. Type of pavement: NA
b. The opening to be made will be _____ feet long by
_____ feet wide and _____ feet deep.
c. A bond in the amount of \$ _____ has been posted with
_____ Telephone No. _____

to run of a term of three (3) years after completion of work to
guarantee satisfactory performance.

(7) If this permit is granted, we agree to comply with all
conditions, restriction, and regulations as contained in the
"Regulations for the Control and Protection of State Highway

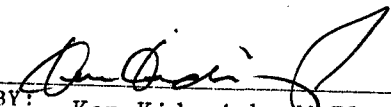
Rights-of-Way", approved by the Utah State Road Commission of October 8, 1962, and all revisions thereto or Regulations adopted by the San Juan County Commission.

(8) In approving this application and locations of utilities, and effort will be made to approve only locations that will not be affected in the event that San Juan County changes the roadway. But, in situations in which the utility has to be moved, this moving shall be done by the utility company or paid for by the company.

(9) For any and all applications requesting authority to use vibratory equipment, applicants shall:

- a. Provide map showing where vibrations will take place.
- b. Agree to repair any damages or replace any property damaged.
- c. Take full responsibility for proper flagging and traffic control.
- d. Agree that vibrating done in the area of dirt roads shall be done on the dirt road rather than in the bar ditch to minimize damage.
- e. Provide a schedule of the planned work and estimated dates of completion.
- f. Attach written permission from all adjacent fee-title owners.
- g. The San Juan County commission has authorized the San Juan County Surveyor/Engineer (or his Assignees) to issue permits.

(10) San Juan County can only grant permission to the extent that the County has the authority to do so and the permission granted hereunder is limited to the interest of authority actually owned by San Juan County and no warranties of ownership or authority to grant permission is expressed or implied by the granting of this permit.


BY: Ken Kidneigh, McIlnay & Associates, Inc.
Representative for Petral Exploration, LLC
TITLE

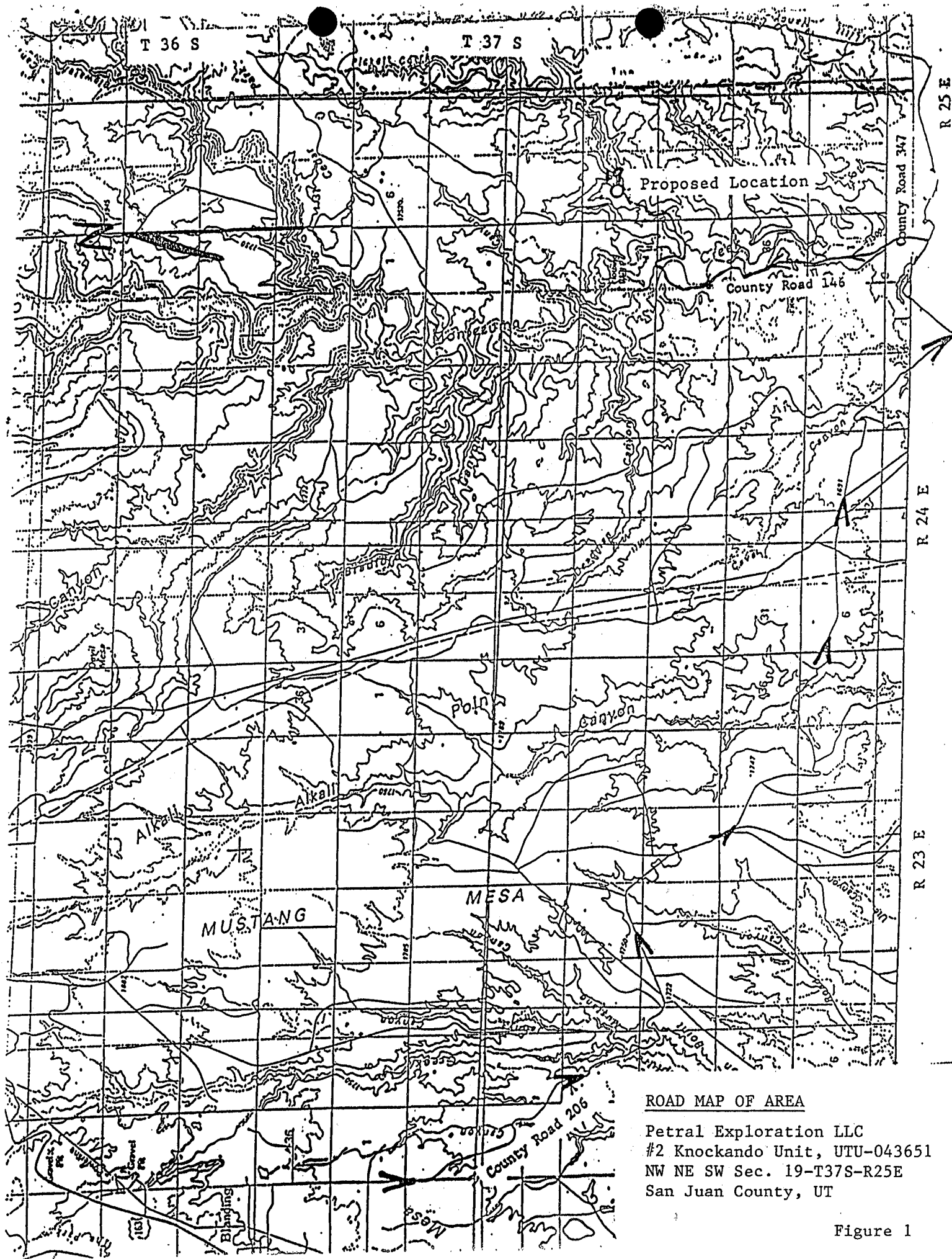
To be filled in by San Juan County Surveyor/Engineer.

(1) Permit should be granted_____

Permit should not be granted_____

(2) Additional requirements which should be imposed_____.

SAN JUAN COUNTY SURVEYOR/ENGINEER



ROAD MAP OF AREA

Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 1

ARCHAEOLOGICAL SURVEY OF
PETRAL EXPLORATION COMPANY'S
PROPOSED #2 KNOCKANDO UNIT WELL PAD
SAN JUAN COUNTY, UTAH

4-CAS REPORT 9618

by
Carol S. DeFrancia

4-CORNERS ARCHAEOLOGICAL SERVICES
76 S. Main Street
Moab, Utah 84532
(801) 259-2777

May 27, 1996

FEDERAL ANTIQUITIES PERMIT 95UT62712
Utah State Permit No. U-96-FE-264b

Prepared For:
Petal Exploration
1700 Lincoln, Suite 5000
Denver, CO 80203

TABLE OF CONTENTS

	page no.
Abstract	1
Introduction	1
Project Area	1
Physiography and Environment	4
Previous Research	5
Examination Procedures	5
Survey Results	5
Conclusion and Recommendations	5
References	7

LIST OF FIGURES

Figure 1. General Vicinity of Project Area	2
Figure 2. Project Map	3
Figure 3. Site Map	6

LIST OF APPENDIX

Appendix A. Site Description	8
------------------------------------	---

ABSTRACT

The archaeological survey of Petral Exploration Company's proposed #2 Knockando Unit well pad was conducted by personnel of 4-Corners Archaeological Services on May 26, 1996. The project is located in the vicinity of Monument Canyon in San Juan County, Utah, approximately twelve to fifteen miles southeast of the town of Blanding. A total of 10 acres were inventoried for cultural resources.

One archaeological site, 42Sa23110, was found approximately 80' north of the well location. Because of the close proximity to the construction zone it is recommended that the site be fenced for avoidance prior to any construction activities. If the site is fenced for avoidance, than no adverse effects should occur as a result of project activities.

No other archaeological sites or cultural remains were found along the surface of the well location. There is some potential for buried cultural deposits at this location, which is positioned in its' entirety along the floodplain of Monument Canyon. Because buried cultural deposits are a potential factor, it is recommended that an archaeological monitor be present during all construction activities. If these measures are taken, including fencing of site 42Sa23110, then archaeological clearance would be the recommended procedure.

INTRODUCTION

The archaeological survey of Petral Exploration Company's proposed #2 Knockando Unit well pad was conducted by Carol DeFrancia of 4-Corners Archaeological Services on August 26, 1996. The project is located along a floodplain of Monument Canyon (Figure 1) on lands administered by the Bureau of Land Management, San Juan Resource Area Office, Monticello. The survey was requested by Mr. Ed McIlnay, of McIlnay & Associates, Inc. Huddleston Surveying personnel staked and flagged the well pad prior to the survey. The proposed access route follows an existing access road along Monument Canyon. A total of 10 acres were inventoried for cultural resources (Figure 2).

Principal federal legislation that is designed to conserve and protect cultural resources includes the Antiquities Act of 1906 (PL 52-209), the National Historic Preservation Act of 1966 (PL 89-665), the National Environmental Policy Act of 1969 (PL 91-190), the 1971 Executive Order No. 11593, the Archaeological and Historical Conservation Act of 1974 (PL 93-291), and the Archaeological Resource Protection Act (ARPA) of 1978 (PL 95-96).

One archaeological site, 42Sa23110, was found approximately 80' north of the proposed well location. No other archaeological sites or cultural remains were found along the surface of the well location. There is some potential for buried cultural deposits at this location, which is positioned in its' entirety along the floodplain of Monument Canyon.

PROJECT AREA

Map Reference: Bug Canyon, Utah 1985 (7.5' series)

Total Project Area: 1.4 acres; area surveyed 10 acres

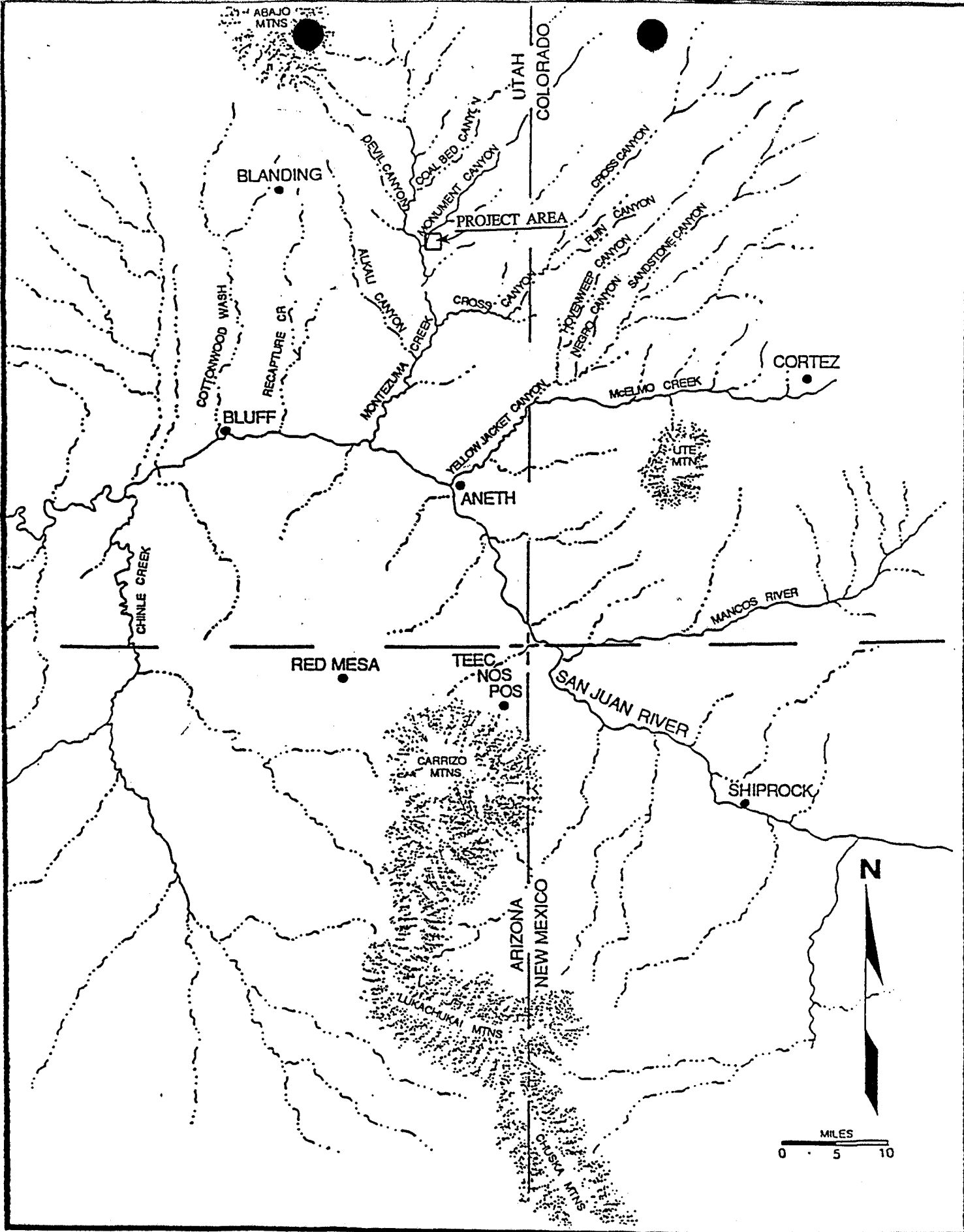


Figure 1. Project Area

#2 Knockando Unit Well Pad

Legal Description: T37S, R25E: Section 19

Center Stake: 2018' FSL, 1388' FWL (surface hole)

UTM Coordinates:		Easting	Northing
(Surveyed Area)	NW Corner	657450	4157770
	NE Corner	657630	4157680
	SE Corner	657540	4157500
	SW Corner	657350	4157580

Project Area: Well Pad 210 x 305'; (1.4 acres)

Surveyed Area: 660 x 660' (10 acres)

Results: One archaeological site (42Sa23110) found ca. 80' north of the well location.

PHYSIOGRAPHY AND ENVIRONMENT

The project area is located in San Juan County, Utah, approximately twelve to fifteen miles southeast of the town of Blanding in the bottom of Monument Canyon. The area lies in the Colorado Plateau physiographic province and is a structural element of the Blanding Basin (Stokes 1977). The proposed well pad lies in its' entirety along the floodplain of Monument Canyon. Monument Creek flanks the southeast edge of the pad. Terrain in the area is generally flat with deep alluvial sandy loess and colluvial fill across the floodplain.

Throughout the Blanding Basin are numerous sources of lithic materials for tool manufacture, outcrops of clay and iron minerals for ceramic construction and decoration, and an abundance of sandstone available for construction and other materials important to the areas prehistory.

Vegetation along the floodplain is predominately a cold desert shrub association including sagebrush, greasewood, saltbush, shadscale, hedgehog cactus and occasional juniper. A pinyon-juniper woodland is prevalent at higher elevations along the canyon bench and ridges. Cottonwood, tamarisk, and willow are common riparian species found along the floodplain of Monument Canyon.

Permanent water sources are available in numerous springs and seeps in the heads of Monument Canyon. One developed spring lies less than 1500' northeast of the project area. Montezuma Creek, which lies approximately one and one-half mile west, generally holds water for several months throughout the late winter/spring season.

Reptilian, avian, and mammalian associations are consistent with those of the Upper Sonoran Life Zone throughout the Colorado Plateau.

Currently, most of the area is used for cattle grazing and limited oil and gas development.

PREVIOUS RESEARCH

A file search was conducted on August 23, 1996 at the BLM San Juan Resource Area Office in Monticello. The results of the review indicated that a large number of oil and gas related surveys have been conducted in the vicinity between the late 1970's and 1980's, and that several archaeological sites (10+) are documented within one to three miles from the project area, predominately near the confluence of Montezuma Creek and Monument Canyon. Apart from smaller energy-related surveys (4-CAS Reports 9614, 9615, 9319, 9327, & 9329), an extensive seismic survey (4-CAS Report No. 9115) was conducted in the general project vicinity less than one-quarter mile from the project area. More recently, monitoring efforts conducted during the construction of the #1 Knockando Federal well pad, which lies approximately 1200' northeast of #2 Knockando Unit, uncovered a prehistoric occupational surface (42Sa23095) along the very northeast corner of the well location (4-CAS Report No. 9615a). No architectural features were identified or disturbed during the construction phase. Other projects in the area include an intensive 3-D seismic program conducted in 1995 (JBR, Report No. 95-16). Site types affiliated with the Anasazi occupation of the area range from lithic scatters and small isolated features to larger prehistoric habitations and village-size settlements.

EXAMINATION PROCEDURES

Prior to the field investigations the well pad was staked and flagged. A 660 x 660' area surrounding the well center stake (10 acres) was inventoried by walking a series of multiple parallel transects spaced 15m apart.

SURVEY RESULTS

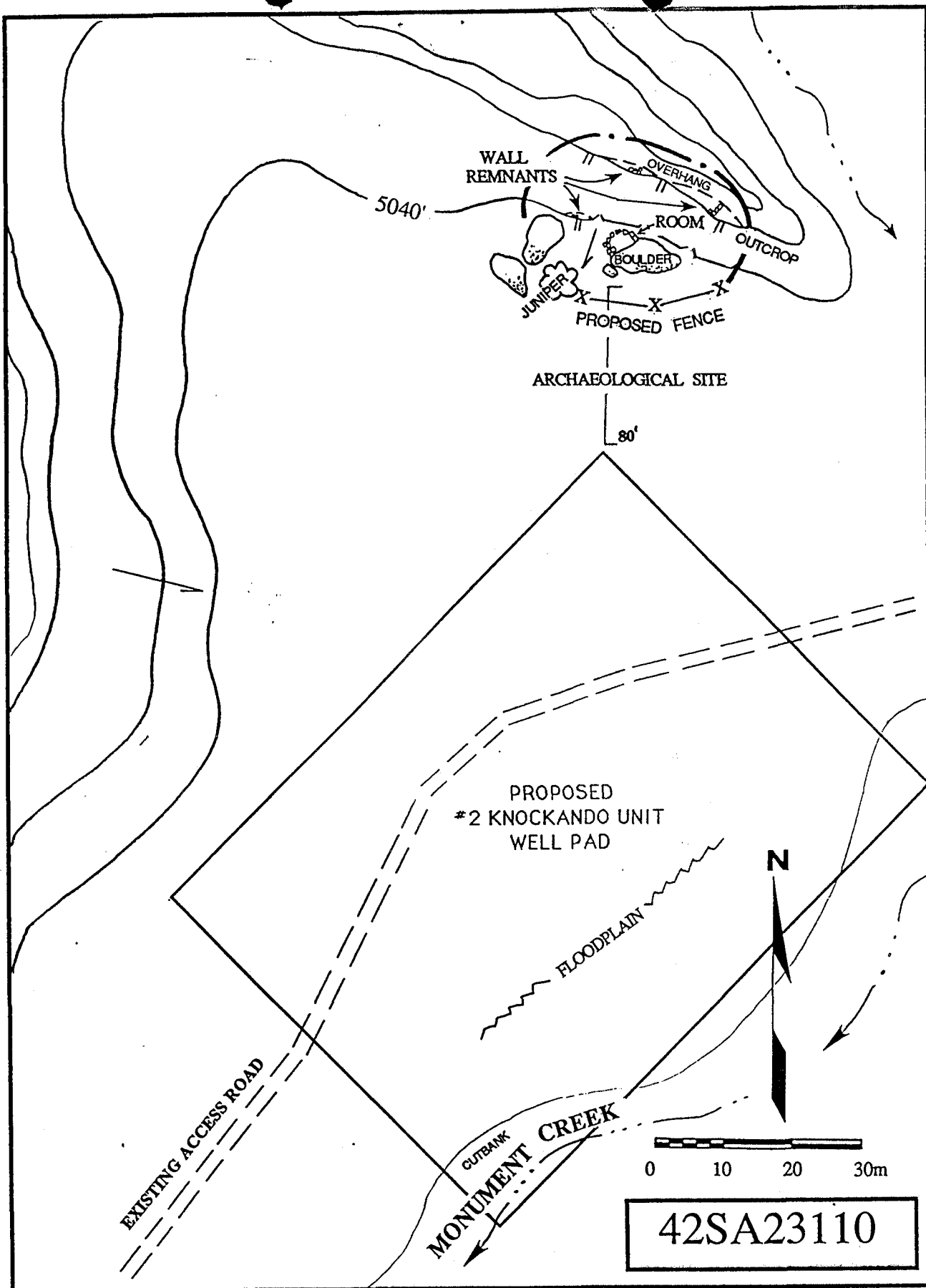
One archaeological site, 42Sa23110 (Figure 3), was found approximately 80' north of the proposed well location. The site consists of a Pueblo II habitation situated along the base of a talus slope and within a series of overhangs along a low outcropped ridge. Because of the potential for significant buried cultural deposits, the site is considered eligible for a National Register listing. The site is briefly described in Appendix A.

CONCLUSION AND RECOMMENDATIONS

The archaeological survey of Petral Exploration Company's #2 Knockando Unit well pad was conducted by personnel of 4-Corners Archaeological Services on August 26, 1996. The project is located in the vicinity of Monument Canyon in San Juan County, Utah, approximately twelve to fifteen miles southeast of the town of Blanding. A total of 10 acres were inventoried for cultural resources.

One archaeological site, 42Sa23110, was found approximately 80' north of the well location. Because of the close proximity to the construction zone, it is recommended that the site be fenced for avoidance prior to any construction activities. If the site is fenced for avoidance, than no adverse effects should occur as a result of project activities.

No other archaeological sites or cultural remains were found along the surface of the well location. There is some potential for buried cultural deposits at this location, which is positioned in its' entirety along the floodplain of Monument Canyon. Surface



(Figure 3)

indications of cultural resources are not always apparent in these areas due to extensive depth of colluvial deposits present along the canyon bottoms.

Because buried cultural deposits are a potential factor, it is recommended that an archaeological monitor be present during all construction activities. If these measures are taken, including fencing of site 42Sa23110, then archaeological clearance would be the recommended procedure.

REFERENCES

- DeFrancia, Carol S.
- 1996 Archaeological Survey of Petral Exploration Company's #1 Knockando Federal Well Pad & Access Route, San Juan County, Utah. 4-CAS Report No. 9615, Moab.
 - 1996 Monitoring Operations for Petral Exploration Company's #1 Knockando Federal Well Pad, San Juan County, Utah. 4-CAS Report No. 9615a, Moab.
 - 1996 Archaeological Survey of Petral Exploration Company's #1 Aultmore Unit Well Pad, San Juan County, Utah. 4-CAS Report No. 9614, Moab.
 - 1993 Archaeological Survey of Sunfield Energy Company's Chaparral 1-L Directional Well (Re-Survey of Cazador Unit #3-1), San Juan County, Utah. 4-CAS Report No. 9319, Cortez.
 - 1993 Archaeological Survey of Sunfield Energy Company's North Patterson 25-A Well Pad and Access Route, San Juan County, Utah. 4-CAS Report No. 9327, Cortez.
 - 1993 Archaeological Survey of Sunfield Energy Company's Chaparral 2-A Well Pad and Access Route, San Juan County, Utah. 4-CAS Report No. 9329, Cortez.
 - 1991 Archaeological Survey of Century Geophysical's North Patterson Seismograph Lines (91-NP-1 through 91-NP-14) San Juan County, Utah. 4-CAS Report No. 9115, Cortez.
- Moore, Michele, Jenni Prince-Mahoney, and Scott Billat
- 1995 An Archaeological Inventory of 51 Miles of 3-D Seismic Program Across Montezuma Canyon, San Juan County, Utah. JBR Cultural Resource Report No. 95-16, Sandy.
- Stokes, William Lee
- 1987 Geology of Utah. Occasional Paper Number 6. Utah Museum of Natural History, University of Utah, Salt Lake City.

APPENDIX A

Site Description:

Site 42Sa23110: The site occupies the base of a south-facing talus slope and along three separate levels on the southeast edge of a low outcropped ridge in Monument Canyon. The site consists of several low overhangs containing isolated wall remnants, one single isolated room attached to the side of a large talus boulder, and a sparse artifact scatter covering a 25 x 30m area. At least three rock shelters are indicated under low (<2.5m high) overhangs along the south side a low-lying narrow ridge. The eastern-most shelter contains a 2 x 2m wall alignment of shaped and unshaped sandstone blocks that is heavily eroded, or perhaps disturbed from vandalism. The overhang extends approximately 6m across the front and 1.75m from floor base to ceiling. The back of the overhang (ca. 1.5m deep) may have served as a rear wall as there is little indication of any construction debris along the back of the overhang. Only a 2m x 2m section of a linear wall alignment is still intact along the southeast and southwest side of the room. Another possible shelter lies a few meters northwest, at the same elevation, and contains an amorphous scatter of sandstone blocks situated under a 3.5m long by 2m deep overhang. These shelters occupy the uppermost level of the site area. Approximately 5m below this level to the southwest is another small overhang (ca. 2m across and 1.2m high) that contains a pile of shaped sandstone blocks (ca. 75cm in diameter) situated along the western-most edge of the 1.5m deep overhang. One large piece of a Mancos B/W bowl sherd was found in this area, although the room was probably vandalized as little structural material is evident. A few meters southeast of the shelter along the base of the talus slope is a single rectangular room (4.2 x 5m) abutted against a large talus boulder. Wall alignments, approximately 15 to 70cm high, are present along the northeast, west, and southwest sides of the structure. The room is constructed with shaped and unshaped sandstone blocks that adjoins the northwest edge of a 2.5 to 3m high boulder, which also served as the southeast wall to the structure. A section of the interior wall is exposed on the northeast side of the feature and extends ca. 15cm above the ground surface, containing two courses of shaped sandstone blocks (average 22 x 18 x 5cm). A light scatter of artifacts are present across the site surface and consists of less than 20 sherds of mostly whitewares, a few Cortez B/W and Mancos B/W painted wares, and two corrugated sherds. Lithic debitage (< 5 items) consists of secondary flakes of siltstone and quartzite. Based on the size and number of isolated shelters, including the limited amount of artifacts present, the site probably served as a temporary habitation during the Pueblo II period. Because significant buried deposits are possible, the site is considered eligible for a National Register listing.

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 09/11/96

API NO. ASSIGNED: 43-037-31780

WELL NAME: KNOCKANDO UNIT #2
OPERATOR: PETRAL EXPLORATION (N7700)

PROPOSED LOCATION:

NESW 19 - T37S - R25E
SURFACE: 2018-FSL-1388-FWL
BOTTOM: 2018-FSL-1388-FWL
SAN JUAN COUNTY
WILDCAT FIELD (001)

LEASE TYPE: FED
LEASE NUMBER: UTU - 043651

PROPOSED PRODUCING FORMATION: GRRV

INSPECT LOCATION BY: / /

TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

☒ Plat
☒ Bond: Federal ☒ State ☐ Fee ☐
(Number 4T 1040)
☒ Potash (Y/N)
☒ Oil shale (Y/N)
☒ Water permit
(Number _____)
☒ RDCC Review (Y/N)
(Date: _____)

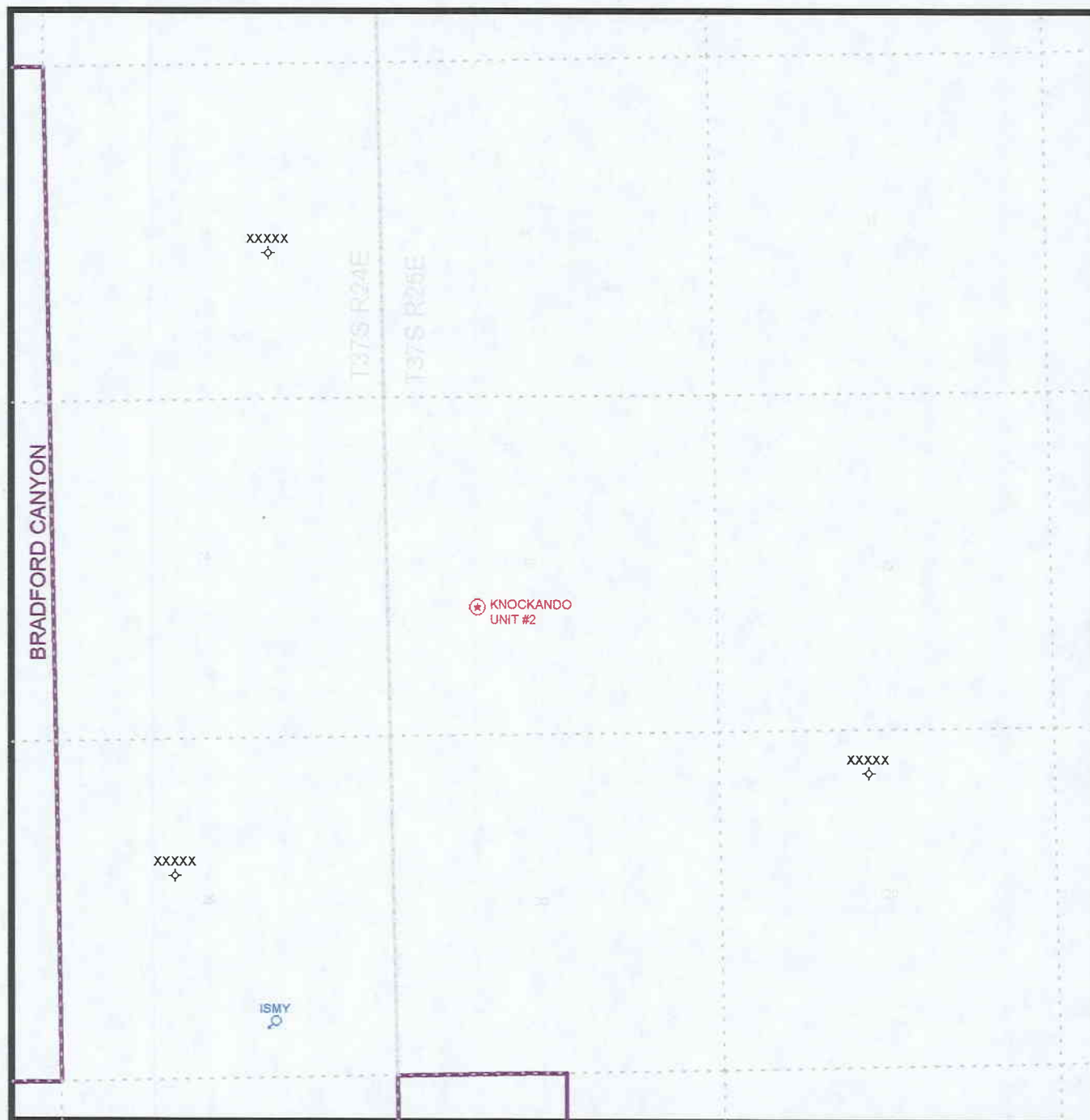
LOCATION AND SITING:

☒ R649-2-3. Unit: KNOCKANDO
____ R649-3-2. General.
____ R649-3-3. Exception.
____ Drilling Unit.
____ Board Cause no: _____
____ Date: _____

COMMENTS:

STIPULATIONS:

OPERATOR: PETRAL EXPLORATION
FIELD: WILDCAT (001)
SEC, TWP, RNG: 19, T37S, R25E
COUNTY: SAN JUAN
UAC: R649-3-3



PREPARED:
DATE: 11-SEPT-96



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

September 30, 1996

Petral Exploration, LLC
c/o McIlnay & Associates, Inc.
2305 Oxford Lane
Casper, Wyoming 82604

Re: Knockando Unit 2 Well, 2018' FSL, 1388' FWL, NE SW, Sec. 19,
T. 37 S., R. 25 E., San Juan County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-31780.

Sincerely,

R. J. Firth
for R. J. Firth
Associate Director

lwp

Enclosures

cc: San Juan County Assessor
Bureau of Land Management, Moab District Office



Operator: Petral Exploration, LLC
Well Name & Number: Knockando Unit 2
API Number: 43-037-31780
Lease: UTU-043651
Location: NE SW Sec. 19 T. 37 S. R. 25 E.

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

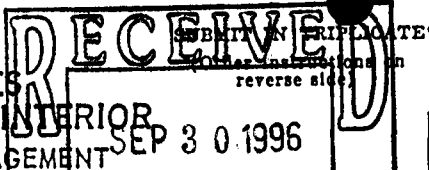
Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews at (801)538-5334 or Mike Hebertson at (801)538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

DIV. OF OIL, GAS & MINING
PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER ☐

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Petral Exploration, LLC

3. ADDRESS OF OPERATOR c/o McIlroy & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604 (307) 265-4351

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface
2018' FSL & 1388' FWL (NW NE SW) Sec. 19-T37S-R25E

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approximately 15 miles SE of Blanding, UT

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

1388'

16. NO. OF ACRES IN LEASE

Lease 1872.48

Unit 3489.44

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1380'

19. PROPOSED DEPTH

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

22. APPROX. DATE WORK WILL START*

September 26, 1996

23

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	0.25 Wall	80'	To surface
12 1/4"	8 5/8"	24#/ft.,	2500'	To surface
7 7/8"	5 1/2"	15.5#/ft.,	5440'	220 sks.

Request is made for all informatin to be held CONFIDENTIAL

It is proposed to drill a well at the above location with the primary zone of interest the Upper Ismay Mound Fm. at 5104' TVD. If the well proves productibe, 5 1/2" casing will be cemented in place and the well completed. If the well if found non-productive, it will be plugged and abandoned and the surface restored as per BLM specifications.

See attached "Drilling Program" summary and "Surface Use Program" for details.

I hereby certify that Petral Exploration LLC is responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is provided by BLM Bond No. UT 1040

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Anthony R. Mayer

Petral Exploration, LLC, Petroro Corp., Manager

TITLE Anthony R. Mayer, Sr. VP

DATE September 10, 1996

(This space for Federal or State office use)

PERMIT NO.

/s/ Brad D Palmer

APPROVAL DATE
Assistant Field Manager,
Resource Management

SEP 26 1996

APPROVED BY

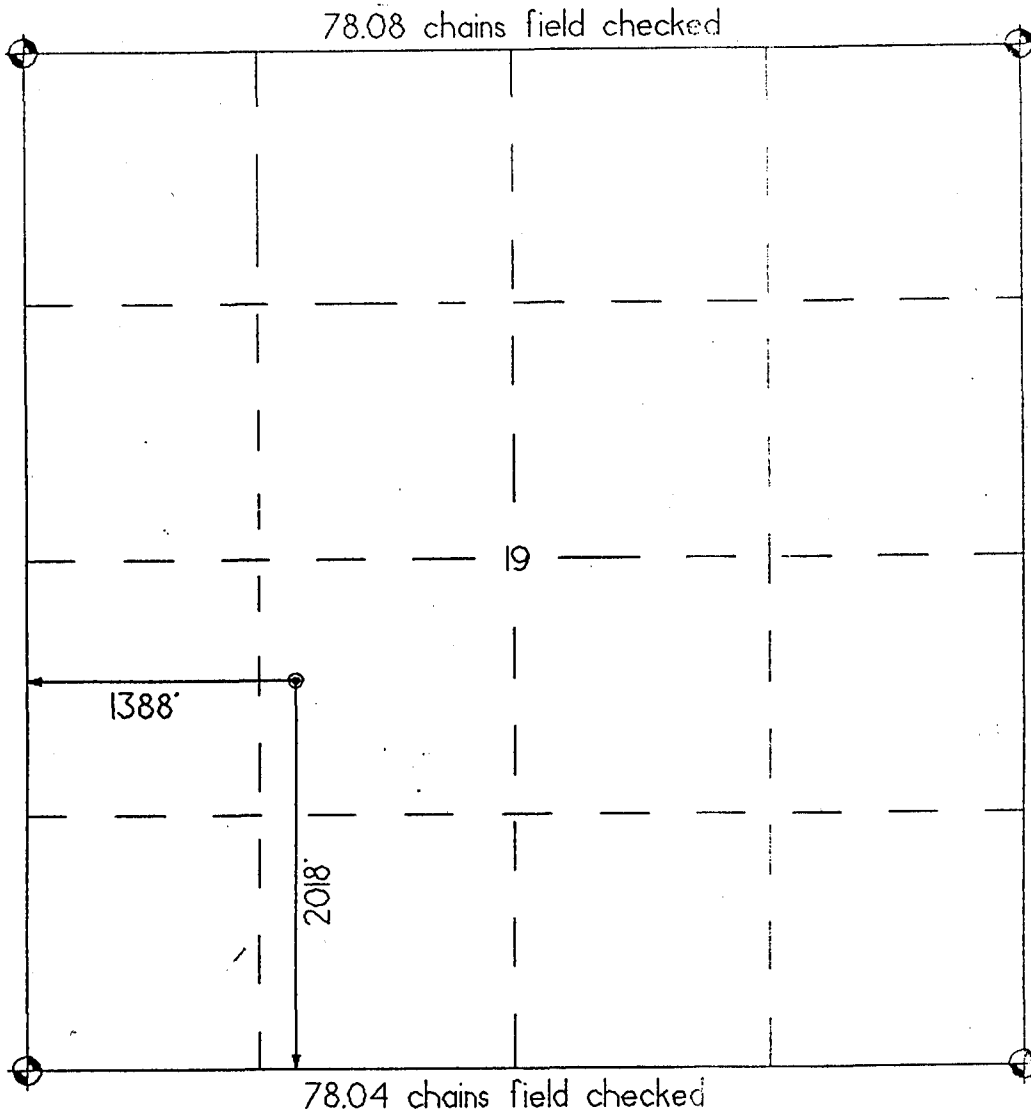
CONDITIONS OF APPROVAL, IF ANY:

DATE

*See Instructions On Reverse Side

FLARING OR VENTING OF
GAS IS SUBJECT TO NTL 4-A
Dated 1/1/80

Well Location Plat



NORTH

0' 1000'
1" = 1000'

⊕ brass cap

□ stone

Well Location Description

PETRAL EXPLORATION

2 Knockando Unit

2018' FSL & 1388' FWL

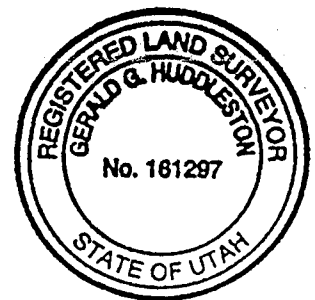
Section 19, T.37 S., R.25 E., SLM

San Juan County, UT

5022' grd. el.

State plane coordinates from GPS survey:

331.230 North & 2.661.689 East



24 August 1996

Gerald G. Huddleston

Gerald G. Huddleston, LS

The above is true and correct to my knowledge and belief.

HUDDLESTON LAND SURVEYING - BOX KK - CORTEZ, CO - (970) 565 -3330



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
324 South State, Suite 301
Salt Lake City, Utah 84111-2303

RECEIVED

NOV 10 1995

IN REPLY REFER TO:
3104
(UT-923)

NOV 7 1995

DECISION

Obligor	:	Bond Amount:	\$25,000
Patral Exploration LLC	:		
P.O. Box 5083	:	Bond Type:	Statewide
Denver, CO 80217-5083	:		Oil and Gas
Financial Institution:	:		
Norwest Bank Colorado, N.A.	:	BLM Bond Number:	UT 1040
1740 Broadway	:		
Denver, CO 80274	:		

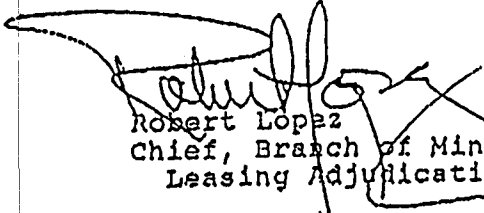
Statewide Oil and Gas Personal Bond and Certificate of Deposit Accepted

On November 6, 1995, this office received Bond Form 3000-4 together with Investment Deposit Agreement (Book Entry) No. 101741006 evidencing the purchase of a \$25,000 Certificate of Deposit (CD) in the amount of \$25,000 to secure a statewide oil and gas bond for the above obligor. Both documents have been examined and are accepted effective November 6, 1995.

The CD will be retained by the Bureau of Land Management (BLM) and will automatically renew annually until all terms and conditions of the leases have been fulfilled or until a satisfactory replacement bond has been accepted by the BLM.

The bond will be maintained by this office. The bond constitutes coverage of all operations conducted by or on behalf of the obligor on Federal leases in the State of Utah. The bond provides coverage of the obligor where that obligor has interest in, and/or responsibility for operations on, leases issued under the authority of any of the Acts cited on the bond form. Please note that Federal leases do not include Indian leases.

If you have any questions, please contact Irene Anderson of this office at (801) 539-4108.


Robert Lopez
Chief, Branch of Mineral
Leasing Adjudication

cc: All Districts

Petral Exploration, LLC
Knockando #2
Lease U-043651
NW/NE/SW, Section 19, T. 37 S., R. 25 E.
San Juan County, Utah

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that Petral Exploration, LLC is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT-1040 (Principal - Petral Exploration, LLC) via surety consent as provided for in 43 CFR § 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR § 3106.7-2 continuing responsibility are met.

This permit will be valid for a period of one year from the date of approval. After permit termination, a new application must be filed for approval.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR § 3100), Onshore Oil and Gas Orders, lease terms, notices to lessees, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to field representatives to insure compliance.

A. DRILLING PROGRAM

1. The proposed 3M BOP system is adequate. Installation, testing and operation of the system shall be in conformance with Onshore Oil and Gas Order No. 2.
2. Any fluid bearing zones or lost circulation zones encountered while drilling will be isolated behind casing and cement.
3. If a gas meter run is constructed, it will be located on lease within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and will be buried downstream of the meter until it leaves the pad. Meter runs will be housed and/or fenced. The gas meter shall be calibrated prior to first sales and shall be calibrated quarterly thereafter. All gas production and measurement shall comply with the provisions of 43 CFR § 3162.7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
4. Cement must be circulated to surface for the conductor (16") and surface (8-5/8") casing. Cement must be brought to a minimum of 1000' above potential pay zone if the well is completed as a producer.
5. If a drill stem test is conducted it must be conducted during daylight hours and follow the applicable Onshore Orders and regulations.

B. SURFACE USE PLAN

The following stipulations have been developed to mitigate adverse environmental impacts which may result from the action permitted by the accompanying decision. The action permitted and its anticipated impacts are fully described in the environmental assessment or categorical exclusion referenced above.

1. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the operator, or any person working on his behalf, on public or Federal land shall be immediately reported to the San Juan Resource Area Manager. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the San Juan Resource Area Manager. An evaluation of the discovery will be made by the San Juan Resource Area Manager to determine appropriate action to prevent the loss of significant cultural or scientific values. The operator will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the operator.
2. BLM will complete a raptor/owl survey and clearance of the affected area surrounding the proposed drilling site prior to work initiation if the proposed well is drilled between February 1, and July 15. If the raptor/owl survey locates an active raptor/owl nest which would be affected by this proposal, no work would be allowed until nestlings have fledged.
3. Deer winter range restrictions from December 15, through April 30 are imposed for well location preparation and drilling operations.
4. All permanent above the ground production equipment will be painted Juniper Green.
5. The reserve pit shall remain free of hydrocarbons at all times. Any hydrocarbons entering the reserve pit will be removed promptly or the pit will be effectively sealed with netting material with a mesh of one inch or less.

6. Reclamation of the entire disturbed area will be accomplished by grading the area as near as near as practical back to the natural contour and spreading the top soil evenly as possible over the area. The entire disturbed area will be scarified with a 6 inch or less distance between ripped surfaces. The soil surface will be dry and loose prior to seeding and will be broadcast seeded between October 1, and February 28 with the following mixture of pure live seed:

Galleta	2 pounds/acre
Indian ricegrass	2 pounds/acre
Fourwing saltbush	2 pounds/acre
Sand dropseed	1 pound/acre
Wild sunflower	1 pound/acre
Cliffrose	1 pound/acre
Morman tea	1 pound/acre

C. REQUIRED APPROVALS, REPORTS AND NOTIFICATIONS

Required verbal notifications are summarized in Table 1, enclosed.

Building Location- Contact the BLM Petroleum Engineering Technician at the Monticello BLM Field Office at least 48 hours prior to commencing construction of location.

Spud- The spud date will be reported to BLM 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the Moab BLM Field Office within 24 hours after spudding, regardless of whether spud was made with a dry hole digger or big rig.

Daily Drilling Reports- Daily drilling reports shall detail the progress and status of the well and shall be submitted to the Moab BLM Field Office on a weekly basis.

Monthly Reports of Operations- In accordance with Onshore Oil and Gas Order No. 1, this well shall be reported on Minerals Management Service (MMS) Form 3160, "Monthly Report of Operations," starting the month in which operations commence and continuing each month until the well is physically plugged and abandoned. This report will be filed directly with MMS.

Sundry Notices- There will be no deviation from the proposed drilling and/or workover program without prior approval. "Sundry Notices and Reports on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR § 3162.3-2. Safe drilling and operating practices must be observed.

Drilling Suspensions- Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Moab BLM Field Office. All conditions of this approval shall be applicable during any operations conducted with a replacement rig.

Undesirable Events- Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be immediately reported to the BLM in accordance with requirements of NTL-3A.

Cultural Resources- If cultural resources are discovered during construction, work that might disturb the resources is to stop, and the BLM is to be notified.

First Production- Should the well be successfully completed for production, the Moab BLM Field Office will be notified when the well is placed in producing status. Such notification may be made by phone, but must be followed by a sundry notice or letter not later than five (5) business days following the date on which the well is placed into production.

A first production conference will be scheduled as soon as the productivity of the well is apparent. This conference should be coordinated through the Monticello BLM Field Office. The Monticello BLM Field Office shall be notified prior to the first sale.

Well Completion Report- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the Moab BLM Field Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR § 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or

completion operations, will be filed with Form 3160-4. When requested, samples (cuttings and/or samples) will be submitted to the Moab BLM Field Office.

Venting/Flaring of Gas- Gas produced from this well may not be vented/flared beyond an initial, authorized test period of 30 days or 50 MMcf, whichever occurs first, without the prior, written approval of the BLM. Should gas be vented or flared without approval beyond the authorized test period, the well may be ordered shut-in until the gas can be captured or approval to continue the venting/flaring as uneconomic is granted. In such case, compensation to the lessor shall be required for that portion of the gas that is vented/flared without approval and which is determined to have been avoidably lost.

Produced Water- Produced waste water may be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted to the Moab BLM Field Office for approval pursuant to Onshore Oil and Gas Order No. 7.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Moab BLM Field Office for off-lease measurement, off-lease storage and/or commingling (either down-hole or at the surface).

Plugging and Abandonment- If the well is completed as a dry hole, plugging instructions must be obtained from the Moab BLM Field Office prior to initiating plugging operations.

A "Subsequent Report of Abandonment" (Form 3160-5) shall be filed with the Moab BLM Field Office within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR § 3162.6. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the BLM, or the appropriate surface managing agency.

TABLE 1. NOTIFICATIONS

Notify Jeff Brown of the Monticello BLM Field Office in Monticello, Utah, at (801) 587-2141, or at home (801) 587-2046 for the following:

2 days prior to commencement of dirt work, construction and reclamation;

1 day prior to spudding;

50 feet prior to reaching each casing setting depth;

3 hours prior to testing BOPE

If the person at the above number cannot be reached, notify the Moab BLM Field Office at (801) 259-6111. If unsuccessful, contact one of the people listed below.

Well abandonment operations require 24 hour advance notice and prior approval. In the case of newly drilled dry holes, verbal approval can be obtained by calling the Moab Field Office at (801) 259-6111. If approval is needed after work hours, you may contact the following:

Gary Torres, Petroleum Engineer	Office:	(801) 587-2141
	Home:	(801) 587-2705

Eric Jones, Petroleum Engineer	Office:	(801) 259-2117
	Home:	(801) 259-2214

From the Desk of

SHARON ORR

Attn: Frank Matthews

Attached is the approved Right-of-Way
permit from San Juan Co., Ut for the

Petral Exploration, LLC
Knockando Unit #2 well

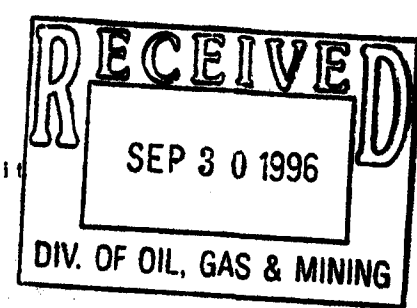
Please replace the unapproved copies in
your NTL package.

Thank you

A handwritten signature, likely of Sharon Orr, consisting of a large, stylized capital 'S' followed by a cursive 'O' and a trailing flourish.

#144
#206
#347

SAN JUAN COUNTY ROAD DEPARTMENT
835 East Highway 666
Post Office Box 188
Monticello, Utah 84535
(801) 587-3230



Application for Right-of-Way Encroachment Permit

Date September 9, 1996

TO: San Juan County Surveyor/Engineer
Post Office Box 188
Monticello, Utah 84535

Application is hereby made by: (1) Petral Exploration, LLC
c/o McClain & Associates, Inc.
Address (2) 2305 Oxford Lane, Casper, WY 82604

Telephone Number: (307) 265-4351 for permission to do the
following: (3) Move in a drilling rig and other equipment as
needed for drilling, completing and producing a well located
in the NE SW Sec. 19-T37S-R25E, San Juan Co., UT utilizing
County Roads 206 and 146.

(4) Location: _____
As above

City Blanding County San Juan State Utah
or U.S. Highway No. NA Milepost No. NA in accordance
with the attached plan. (5)

(6) Construction will begin on or about NA 19____ and
will be completed on or before _____ 19____.

If the proposed installation requires breaking of the
pavement, give the following information:

- a. Type of pavement: NA
- b. The opening to be made will be _____ feet long by
_____ feet wide and _____ feet deep.
- c. A bond in the amount of \$ _____ has been posted with
_____ Telephone No. _____
to run of a term of three (3) years after completion of work to
guarantee satisfactory performance.

(7) If this permit is granted, we agree to comply with all
conditions, restriction, and regulations as contained in the
"Regulations for the Control and Protection of State Highway

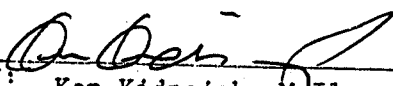
Rights-of-Way", approved by the Utah State Road Commission of October 8, 1962, and all revisions thereto or Regulations adopted by the San Juan County Commission.

(8) In approving this application and locations of utilities, and effort will be made to approve only locations that will not be affected in the event that San Juan County changes the roadway. But, in situations in which the utility has to be moved, this moving shall be done by the utility company or paid for by the company.

(9) For any and all applications requesting authority to use vibratory equipment, applicants shall:

- a. Provide map showing where vibrations will take place.
- b. Agree to repair any damages or replace any property damaged.
- c. Take full responsibility for proper flagging and traffic control.
- d. Agree that vibrating done in the area of dirt roads shall be done on the dirt road rather than in the bar ditch to minimize damage.
- e. Provide a schedule of the planned work and estimated dates of completion.
- f. Attach written permission from all adjacent fee-title owners.
- g. The San Juan County commission has authorized the San Juan County Surveyor/Engineer (or his Assignees) to issue permits.

(10) San Juan County can only grant permission to the extent that the County has the authority to do so and the permission granted hereunder is limited to the interest of authority actually owned by San Juan County and no warranties of ownership or authority to grant permission is expressed or implied by the granting of this permit.

BY: 
Ken Kidneigh, McIlnay & Associates, Inc.
Representative for Petral Exploration, LLC
TITLE

To be filled in by San Juan County Surveyor/Engineer.

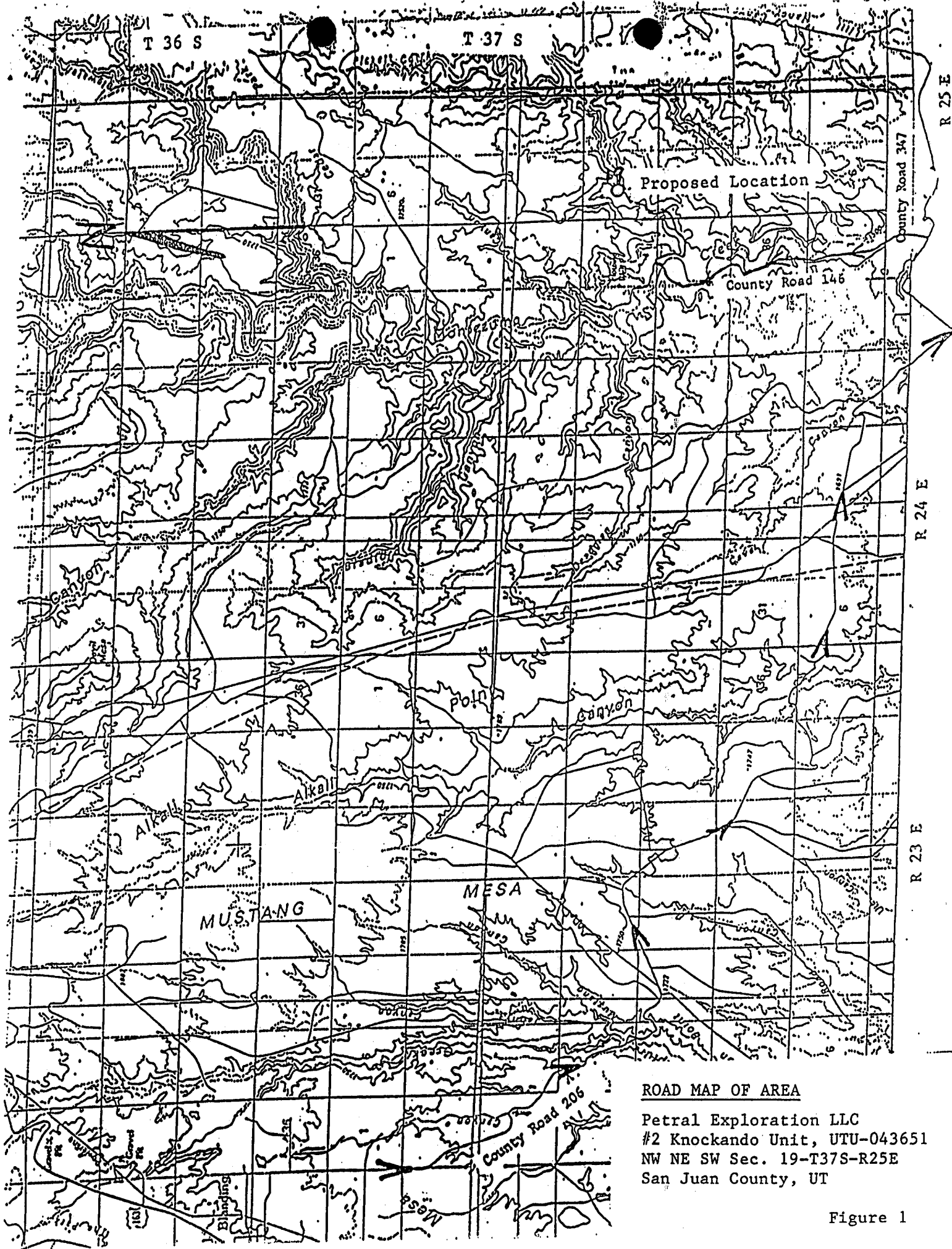
(1) Permit should be granted yes

Permit should not be granted _____

(2) Additional requirements which should be imposed See note 1

Note: Any damage to County
roads must be repaired
by Applicant.


SAN JUAN COUNTY SURVEYOR/ENGINEER



ROAD MAP OF AREA

Petral Exploration LLC
#2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E
San Juan County, UT

Figure 1

facsimile

TRANSMITTAL

to: Mr. Mike Hebertson, State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: September 30, 1996
pages: 3, including cover sheet.

Mike:

As per our telephone conversation attached is the approved APD form and the Conditions of approval on the new Petral well.

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McInay & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473-1218

SEP-26-96 THU 9:33

MOAB DISTRICT OFFICE

FAX NO. 801259-006

P.02

Form 3160-3
(November 1983)
(Formerly 9-331C)SUBMIT IN TRIPPLICATE
(Other Instructions on
reverse side)Form approved.
Budget Bureau No. 1004-G1JB
Expires August 31, 1985UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

B. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐

OTHER

AERIAL
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

Petrar Exploration, LLC

3. ADDRESS OF OPERATOR

c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604 (307) 265-4351

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

2018' FSL & 1388' FWL (NW NE SW) Sec. 19-T37S-R25E

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

Approximately 15 miles SE of Blanding, UT

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT. 1388'

(Also to nearest drilg. unit line, if any)

16. DISTANCE FROM PROPOSED LOCATION

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT. 1380'

10. NO. OF ACRES IN LEASE

Lease 1872.48

Unit 3489.64

15. PROPOSED DEPTH 5440'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RL, GK, etc.)

5022' GL

22. APPROX. DATE WORK WILL START

September 26, 1996

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	0.25 Wall	80'	To surface
12 1/4"	8 5/8"	24#/ft.	2500'	To surface
7 7/8"	5 1/2"	15.5#/ft.	5440'	220 sks.

Request is made for all information to be held CONFIDENTIAL

It is proposed to drill a well at the above location with the primary zone of interest the Upper Ismay Mound Fz. at 5104' TVD. If the well proves productive, 5 1/2" casing will be cemented in place and the well completed. If the well is found non-productive, it will be plugged and abandoned and the surface restored as per BLM specifications.

See attached "Drilling Program" summary and "Surface Use Program" for details.

I hereby certify that Petrar Exploration LLC is responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is provided by BLM Bond No. UT 1040

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Anthony R. Mayer

Petrar Exploration, LLC, Petraro Corp., Manager

TITLE Anthony R. Mayer, Sr VP

DATE September 10, 1996

(This space for Federal or State/office use)

PERMIT NO.

/s/ Brad D Palmer

Assistant Field Manager,
Resource Management

DATE

SEP 26 1996

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED
DRAINING OR VENTING OF
GAS IS SUBJECT TO NTL 4-A
Dated 1/1/80

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations.

Petral Exploration, LLC
Knockando #2
Lease U-043651
NW/NE/SW, Section 19, T. 37 S., R. 25 E.
San Juan County, Utah

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that Petral Exploration, LLC is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT-1040 (Principal - Petral Exploration, LLC) via surety consent as provided for in 43 CFR § 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR § 3106.7-2 continuing responsibility are met.

This permit will be valid for a period of one year from the date of approval. After permit termination, a new application must be filed for approval.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR § 3100), Onshore Oil and Gas Orders, lease terms, notices to lessees, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to field representatives to insure compliance.

OPERATOR Petral Exploration, LLC

OPERATOR ACCT. NO. N7200

ADDRESS c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

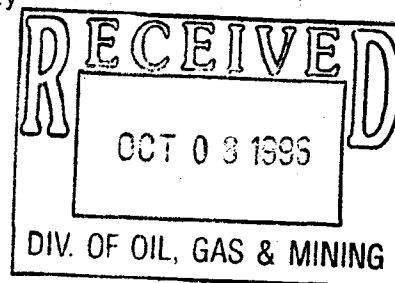
ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
B	99999	11954	43-037-31780	Knockando Unit #2	NE SW	19	37S	25E	San Juan	9-30-96	
WELL 1 COMMENTS: Located within the Knockando Unit UTU-75217X Entity added 10-9-96. Lee											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)



Sharon Orr
Signature McIlnay & Associates, Inc.
Consulting Engineers 10-3-96
Title Date
Phone No. (307) 265-4351

DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

SPUDDING INFORMATION

Name of Company: PETRAL EXPLORATION

Well Name: KNOCKANDO UNIT 2

Api No. 43-037-31780

Section 19 Township 37S Range 25E County SAN JUAN

Drilling Contractor FORE CORNERS

Rig #: 8

SPUDDED:

Date: 10/7/96

Time: 6:00 PM

How: ROTARY

Drilling will commence: _____

Reported by: SHARON

Telephone #: 1-307-265-4351

Date: 10/7/96 Signed: JLT

327° ✓

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.
2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW)

5. Lease Designation and Serial No.

UTU-043651

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

Knockando Unit UTU-75217X

8. Well Name and No.

Knockando Unit #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Spud

- ☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

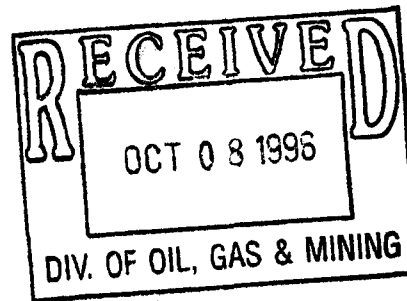
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Report of Spud:

Work was commenced on 9-26-96 with the clearing of the well site. A "dry hole digger" was moved to location 9-29-96 and spudded the hole at 11:30 PM 9-30-96. A 20" hole was being drilled over midnight September 30, 1996 and operations were being conducted at 12:00AM October 1, 1996.

See attached Affidavit.



14. I hereby certify that the foregoing is true and correct

McIlnay & Associates, Inc.

Signed

Title Consulting Engineers

Date October 3, 1996

(This space for Federal or State office use)

Approved by
Conditions of approval, if any:

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See instruction on Reverse Side

October 1, 1996

San Juan Resource Area Manager
U.S. Department of the Interior
Bureau of Land Management
82 Dogwood, Suite M
Moab, Utah 84532

Re: AFFIDAVIT OF SPUD--Petral Exploration, LLC
UTU-043651, #2 Knockando Unit
NW NE SW Section 19-T37S-R25E
San Juan County, Utah

Gentlemen:

Work was commenced on the above referenced well on 9/26/96 with the clearing of the well site. A "dry hole" digger was moved in September 29, 1996 and spudded the hole at 11:30 PM on September 30, 1996. A 20" hole was being drilled at midnight September 30, 1996 and drilling operations were being conducted at 12:00 AM October 1, 1996. Approximately 80' of 16" conductor pipe will be set and cemented to surface.

After setting the conductor pipe operations will consist of waiting on rotary tools. Rotary tools will be moved on the location and work resumed as soon as the rig is free. Drilling contractor will be Four Corners Drilling.

This affidavit is submitted for the purpose of lease extension by commencement of drilling prior to the expiration of lease UTU-043651.

CERTIFICATION OF DRILLING OPERATIONS

By signing below I hereby certify that I have read the foregoing statements and that the facts presented therein are true and correct.

As representative for:

Petral Exploration, LLC

Kenneth P. Kidneigh 10-1-96 12:05 AM
Kenneth P. Kidneigh Date Time

U.S. Bureau of Land Management

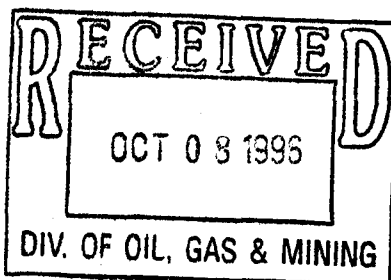
Jeff Brown 10-1-96 12:05 AM
Jeff Brown Date Time

Bill Jr's. Rathole Drilling

Calvin Murray 10-1-96 12:05
Name Date Time

WITNESSED BY:

Larry Natta 10-1-96 12:05
Name Date Time



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description) ..

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW)

5. Lease Designation and Serial No.

UTU-043651

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

Knockando Unit UTU-75217X

8. Well Name and No.

Knockando Unit #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☐ Other _____
- ☒ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

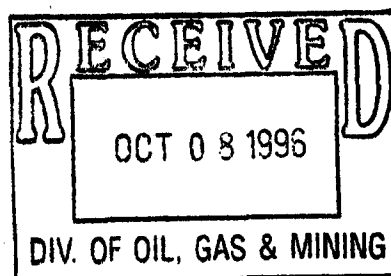
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Plans

Conductor Pipe: Due to very hard sandstone it was impossible to drill beyond 42' GL. Therefore 16" conductor pipe was set at 42' GL (53'KB) and cemented to surface with 3 yards cement.

CONFIDENTIAL



14. I hereby certify that the foregoing is true and correct

Signed

(This space for Federal or State office use)

McIlnay & Associates, Inc.

Title Consulting Engineers

Date 10-3-96

Approved by

Conditions of approval, if any:

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

From the Desk of

SHARON ORR

Please attach to the NTL package for:

Petral Exploration, LLC
Knockando Unit #2, UTU-043651
NW NE SW 19-37S-25E
San Juan Co., UT



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER RIGHTS

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Robert L. Morgan
State Engineer

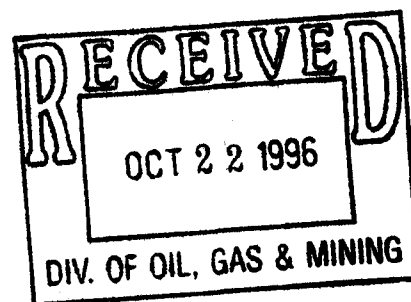
Southeastern Area
453 South Carbon Avenue
P.O. Box 718
Price, Utah 84501-0718
801-837-1303

September 25, 1996

Montezuma Well Service
Attn: Richard
P.O. Box 540
Montezuma Creek, Utah 84534

Re: Temporary Change Application
Petral Federal Knockandu #2
Section 17, T37S, R25E, SLB&M

43-037-31780



Dear Richard:

Enclosed is a prepared Temporary Change Application for the above-noted exploration well. Please review it carefully, and if it is in order, sign on the second page and return the original form to this office with a filing fee of \$75.00, made payable to the Division of Water Rights. We will then process the request, and an approval letter will be sent to you. We have received the permission letter from Richard Gore.

If you have any questions, or need clarification on the prepared form, please contact me.

Sincerely,

Mark P. Page
Regional Engineer

Enclosure
MPP/mjk



APPLICATION FOR TEMPORARY CHANGE OF WATER

STATE OF UTAH

Rec. by _____

Fee Paid \$ _____

Receipt # _____

Microfilmed _____

Roll # _____

For the purpose of obtaining permission to make a temporary change of water in the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Section 73-3-3 Utah Code Annotated 1953, as amended.

*WATER RIGHT NO. 09 - 156 *APPLICATION NO. 1

Changes are proposed in (check those applicable)

_____ point of diversion. X place of use. X nature of use. X period of use.

1. OWNER INFORMATION

Name: Montezuma Well Service *Interest: _____%

Address: P.O. Box 540

City: Montezuma Creek State: Utah Zip Code: 84534

2. *PRIORITY OF CHANGE: December 10, 1951 *FILING DATE: _____

3. RIGHT EVIDENCED BY: 09-156 (A23462; a5076) Cert. 7854

Prior Approved Temporary Change Applications for this right: t18234; t19778.

***** HERETOFORE *****

4. QUANTITY OF WATER: 0.364 cfs and/or _____ ac-ft.

5. SOURCE: Underground Water Well

6. COUNTY: San Juan

7. POINT(S) OF DIVERSION: _____

N. 531 ft. & E. 1810 ft. from W $\frac{1}{4}$ Cor. Sec. 1, T38S, R24E, SLB&M

Description of Diverting Works: 4-inch casing, 538 ft. deep

8. POINT(S) OF REDIVERSION

The water has been rediverted from _____ at a point: _____

Description of Diverting Works: _____

9. POINT(S) OF RETURN

The amount of water consumed is 0.364 cfs or _____ ac-ft.

The amount of water returned is _____ cfs or _____ ac-ft.

The water has been returned to the natural stream/source at a point(s): _____

*These items are to be completed by the Division of Water Rights.

Temporary Change

10. NATURE AND PERIOD OF USE

Irrigation: From March 15 to October 31
Stockwatering: From _____ to _____
Domestic: From _____ to _____
Municipal: From _____ to _____
Mining: From _____ to _____
Power: From _____ to _____
Other: From _____ to _____

11. PURPOSE AND EXTENT OF USE

Irrigation: 80.4 acres. Sole supply of _____ acres.
Stockwatering (number and kind): _____
Domestic: _____ Families and/or _____ Persons.
Municipal (name): _____
Mining: _____ Mining District in the _____ Mine.
Ores mined: _____
Power: Plant name: _____ Type: _____ Capacity: _____
Other (describe): _____

12. PLACE OF USE

Legal description of place of use by 40 acre tract(s):
SW $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ Sec. 1, T38S, R24E, SLB&M

13. STORAGE

Reservoir Name: _____ Storage Period: from _____ to _____
Capacity: _____ ac-ft. Inundated Area: _____ acres.
Height of dam: _____ feet.
Legal description of inundated area by 40 tract(s): _____

***** THE FOLLOWING CHANGES ARE PROPOSED *****

14. QUANTITY OF WATER: _____ cfs and/or 3.0 ac-ft.

15. SOURCE: Underground Water Well

Balance of the water will be abandoned: _____, or will be used as heretofore: X

16. COUNTY: San Juan

17. POINT(S) OF DIVERSION: Same as heretofore

Description of Diverting Works: 4-inch casing, 538 feet deep, portable pump and tank truck.
*COMMON DESCRIPTION: 9 miles North of Hatch Trading Post Bug Canyon Quad

18. POINT(S) OF REDIVERSION

The water will be rediverted from _____ at a point: _____

Description of Diverting Works: _____

19. POINT(S) OF RETURN

The amount of water to be consumed is _____ cfs or 3.0 ac-ft.

The amount of water to be returned is _____ cfs or _____ ac-ft.

The water will be returned to the natural stream/source at a point(s): _____

20. NATURE AND PERIOD OF

Irrigation: From ___/___/___ to ___/___/___
Stockwatering: From ___/___/___ to ___/___/___
Domestic: From ___/___/___ to ___/___/___
Municipal: From ___/___/___ to ___/___/___
Mining: From ___/___/___ to ___/___/___
Power: From ___/___/___ to ___/___/___
Other: From 2 / 26 / 96 to 12 / 31 / 96

21. PURPOSE AND EXTENT OF USE

Irrigation: _____ acres. Sole supply of _____ acres.
Stockwatering (number and kind): _____
Domestic: _____ Families and/or _____ Persons.
Municipal (name): _____
Mining: _____ Mining District at the _____ Mine.

Power: Plant name: _____ Type: _____ Capacity: _____
Other (describe): Exploration drilling, road construction & maintenance, dust suppression

22. PLACE OF USE

Legal description of place of use by 40 acre tract(s): _____
Petral Federal Knockandu #2: NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 17, T37S, R25E, SLB&M

23. STORAGE

Reservoir Name: _____ Storage Period: from _____ to _____
Capacity: _____ ac-ft. Inundated Area: _____ acres.
Height of dam: _____ feet.
Legal description of inundated area by 40 tract(s): _____

24. EXPLANATORY

The following is set forth to define more clearly the full purpose of this application. Include any supplemental water rights used for the same purpose. (Use additional pages of same size if necessary): _____

The applicant is purchasing the water from the water right owner, Mr. Richard Gore.
See attached letter.

The undersigned hereby acknowledges that even though he/she/they may have been assisted in the preparation of the above-numbered application through the courtesy of the employees of the Division of Water Rights, the responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s).

Earl Martin
Signature of Applicant(s)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.
2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW)

5. Lease Designation and Serial No.

UTU-043651

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation
Knockando Unit UTU-75217X

8. Well Name and No.

Knockando Unit #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other BOP Test

- ☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

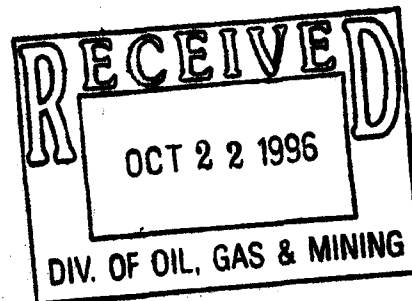
(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

8 5/8" surface casing was set @ 2510.25' KB and cemented to surface 10-10-96. Prior to drilling out from under surface BOP's were tested as follows:

3000 psig for 10 min. Blind rams, pipe rams, choke manifold, kill line valves, floor valve and kelly valve - tested okay.
1500 psig for 10 min. Annular - tested okay.
1000 psig for 30 min. Casing - tested okay.

Test witnessed by Jeff Brown, BLM.



14. I hereby certify that the foregoing is true and correct

Signed

McIlnay & Associates, Inc.
Title Consulting Engineers

Date 10-15-96

(This space for Federal or State office use)

Approved by _____
Conditions of approval, if any:

Title _____

Date _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See instruction on Reverse Side

DAILY COMPLETION REPORTS

Petral Exploration, L.L.C.
#2 Knockando Unit, UTU 043651
API 43-037-31780
NW NE SW Sec. 19-T37S-R25E
San Juan Co., UT

11-11-96**PBD:** 5,398' K.B.**CSG SIZE/WT:** 5 1/2, 15.5, J-55 set @ 5,444' K.B.

Operations: At 7:00 A.M. Moved Big "A" Rig Service in and rigged up same. Rigged up Petro-Wireline Service & ran GR-CBL-CCL. Correlated to Schlumberger Sonic-Gamma Ray open hole log. Logging tool stopped @ 5,121'. Unable to go deeper. Logged from 5,100' to top of cement @ 3,550'. 100% to 90% bond. Lack 276' getting to PBD @ 5,398'. Will run tubing with bit and clean out to PBD and log bottom portion.

Finished rigging up, spotted pump, fresh water tank, pipe racks & walkway. SDFN @ 4:00 P.M. Tubing will be on location in AM. Note: Shut-in pressure between 5 1/2" x 8 5/8" casing 325 psig.

11-12-96

Operations: 7:00 A.M. start up. Unloaded 177 jts., 2 3/8, 4.7 #/ft., J-55 Lone Star Tubing. Picked up, measured and rabbited tubing into hole. Tagged cement @ 5,232'. Rig up and drilled 64' of soft cement to 5,396' K.B. Circulated hole clean w/2% KCl water w/demulsifier, surfactant & clay stabilizer. Pulled up hole 10 stands. SWIFN.

11-13-96**PBD:** 5,396'**Swab or Flow Report:**

Swab back 70 Bbls of treated water (saved). Prepared to Perforate under balance- FL @ 4000'.

Operations: 7:00 A.M. start up. Trip in hole with Petro Wireline GR-CCL-CBL logging tool 5390' (logger's depth). Ran strip log to correlate back to Schlumberger open hole GR-Sonic log. Tied into bond log ran 11/11/96. See attached strip of cement bond log. Test BOP to 3000# psig for 15 min. No leaks or bleed off. Trip in hole w/tubing to 5162'. RU Dowell and spot 3 Bbl 15% Hcl acid w/iron sequestrant, demulsifier & inhibitor across 5162'-5039'. Displaced same w/2% KCl water w/clay stabilizer & demulsifier. RD Dowell. Pull tubing up to 4000'. Swabbed the well down and recovered 70 Bbl. of treated water. Found main drum of completion rig w/several broken bolts holding drum in place. Shut rig down to repair. Rig will be ready to go in A.M. SD for repairs @ 3:00 P.M. SWIFN.

SI 8 5/8" x 5 1/2" annular pressure 285 psig. Bled pressure off. Flowed 3/4" stream of water. Reported to Jeff Brown, BLM. Okay to go ahead with completion. May want to Bradenhead squeeze if we make a well.

11-14-96**PBD:** 5,396'**PKR @ 483.9**

Operations: Trip out hole. Rig up Petro Wireline ran in w/junk basket and gauge ring. Found FL @ 2700' (1300' to high). Trip in hole w/ tubing. to 4500' and swabbed well down to ~ 4000'. Tripped out of hole w/tubing. Rigged up Petro. Ran in with perforating gun (1st run). F.L. @ 4060'. Logged collars. Corrected to depth. Perforated (2 runs) with 4 HPF as follows:

5134 - 62', 6' - 24 holes.

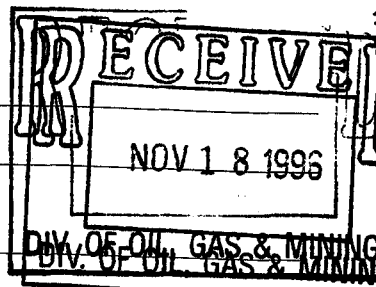
5092 - 5104', 13' - 52 holes.

5084 - 89', 29' - 116 holes.

Picked up Baker PIP tool (isolation packer) with 2 3/8" tubing and SLM same into casing. Set packer @ 4839' K.B. Baker "F" Nipple installed in string 6' above PIP tool. Loaded backside with 2% KCl water containing clay stabilizer, surfactant, and demulsifier chemicals. Filled tubing w/13 1/2 Bbls. of 2% KCl with clay stabilizer, surfactant, and demulsifier. Pressured up with rig pump to 1700 psig. Did not break down. Bled pressure off to repair leak. Rig pump rated at 2700 psig but not in good enough condition to go above 1700 psig. CIW & SDFN @ 6:15 P.M. Will break down w/Dowell in A.M. (11/15/96).

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: Knockando Unit #2API number: 43-037-317802. Well Location: QQ NW-NE Section 2 Township 37S Range 25E County San Juan
SW3. Well operator: Petral Exploration, LLC
c/o McIlnay & Associates, Inc.Address: 2305 Oxford LaneCasper, WY 82604Phone: 307 265-43514. Drilling contractor: Four Corners Drilling CO.Address: 5651 U.S. Hwy 64Farmington, NM 87499Phone: (505) 326-3370

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
5,166	5,206	10 GPM	Salty

6. Formation tops: 5064' - Upper Ismay5224' - Lower Ismay5070' - Upper RE anhydrite5318' - Upper Desert Creek5084' - Upper Ismay Mound5394' - Chimney Rock Shale5198' - Hovenseep Shale5416' - Akah

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge.

Date: November 13, 1996Name & Signature: Edward W. McIlnayTitle: McIlnay & Associates, Inc.
Consulting Engineers

facsimile

TRANSMITTAL

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: November 22, 1996
pages: 6 , including cover sheet.

Weekly progress reports

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlray & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473 1218

Daily Completion Reports

Petral Exploration, LLC
Knockando Unit #2, UTU-043651

November, 1996
Page 2

11-15-96

PBD: 5,396' **FM:** Ismay **CSG SIZE/WT:** 5 1/2", 15.5#, J-55 **PKR @ 4838'**
PERFS: 5084- 89, 5092-5104, 5134-62' **TBG:** 2 3/8" **JTS DEL:** 177 **JTS IN WELL:** 154
Swab: Rec. 18.5 BW

Operations:

Started @ 7 AM. Hooked up Dowell. Pressured casing annulus to 300 psig with rig pump. Pressured up on tubing to 1800 psig. No break. Increased pressure at 100 psig increments shutting down between increments for 5 min. At 2500 psig pressure bled off to 2000 psig in 5 min. At 3000 psig pressure bled to 2600 psig in 4 min. Total of 3 Bbls. acid displaced to perforations. Bled pressure off and swabbed well down to seating nipple @ 4800' in 1 Hr. Shut down for 1 hr. and made 1 run. Recovered 1/4 Bbl. brackish water (probably spent acid water). Well swabbed dry. CIW & SDFN @ 3 PM. 8" of snow on ground @ 6 AM 11/15/96.

11-16-96

PBD: 5,396' **FM:** Ismay **CSG SIZE/WT:** 5 1/2", 15.5#, J-55 **PKR @ 4838'**
PERFS: 5084- 89, 5092-5104, 5134-62' **TBG:** 2 3/8" **JTS:** Del-177 **In Well-154**
0 Hrs. SI - SITP 140 psig **SICP - 0** **FL @ 3800' - 1000' or 3 Bbls. fill**
Swab: Rec. 42.7 Bbls. - 100% water

Operations:

Started operations @ 7 AM. Loaded tubing w/2% treated KCl water (clay stabilizer, demulsifier and surfactant). Unseated PIP tool and reset in blank casing @ 5168' KB. Pressured to 3500 psig. Held okay. Reset PIP tool in first interval of perforations. All perforations acidized with Dowell 15% MSR-100 acid.

Summary of acidizing operations:

- 1st Setting 5162 - 58' - Spotted 20 Bbls. acid (BA) to PIP and set same. Pumped 1 BA and pressured to 3000 psig. Shut down & bled back to 2500 psig. Pumped additional 3.7 Bbls. acid @ 0.42 BPM @ 2500 psig. Total acid into perforations 4.7 Bbls. No communications detected.
- 2nd Setting 5158 - 54' - Pumped 1/2 BA @ 3000 psig. Shut down and bled back to 2500 psig. Pumped total of 4.3 BA which communicated. Pump pressure 0 psig.
- 3rd Setting 5154 - 50' - Pumped 1.7 BA. Broke from 2730 psig to 2500 psig. Shut down 5 min. Pumped 3 BA @ 2500 psig @ = 0.5 BPM. Total 4.7 Bbls. No communication.
- 4th Setting 5150 - 46' - Pumped 3 BA @ = 5 BPM @ 2500 psig. Shut down 5 min. Pumped 1.7 BA @ 2500 psig. No communication.
- 5th Setting 5146 - 42' - Pumped 3 BA @ = 5 BPM @ 2730 psig to 2600 psig. Shut down 5 min. Pumped 1.7 BA @ 2600 psig. No communication.
- 6th Setting 5142 - 38' - Pressured to 2500 psig. Let set 12 min. No bleed off.
- 7th Setting 5138 - 34' - Pressured to 3500 psig. Held 14 min. No bleed off.
- 8th Setting 5104 - 5100' - Pumped 2 BA. Pressured to 1800 psig. Broke back to 0 psig. Communicated. Pumped 2.7 BA for total of 4.7 BA.
- 9th Setting 5100 - 5096' - Pumped 4 BA. Broke from 1800 psig to 0 psig. Communicated.
- 10th Setting 5096 - 92' - Pumped 3 BA. Broke from 1800 psig. Communicated.
- 11th Setting 5089 - 85' - Pumped 4.7 BA @ 1800 psig. Communicated.
- 12th Setting 5085 - 81' - Pumped 4.7 BA. Broke from 2800 psig to 2600 psig. No communication.

Daily Completion Reports

Petral Exploration, LLC
Knockando Unit #2, UTU-043651

November, 1996
Page 3

Moved PIP tool back down hole to attempt to break down perforation intervals 5138 - 34' & 5142 - 38'. Pressured up on both individually to 3500 psig. No bleed off. Moved tool up to 4838' KB. With PIP tool unset, pumped 16 1/2 Bbls. 2% treated KCl water down backside w/ tubing shut in, to displace acid in annulus. Pumped @ \approx 0.5 BPM @ 1800 psig. Reversed 5 BA from tubing.

Total acid pumped into perforations - 40.2 Bbls. Total load to recover 18.7 Bbls. treated KCl water + 40.2 Bbls. acid water - 58.9 Bbls. total load to recover.

Reset PIP tool @ 4838' KB. Attempted to retrieve standing valve. Made two runs. Light plant went down. CIW & SDFN @ 7:30 PM.

11-17-96

PBD: 5,396' **FM:** Ismay **CSG SIZE/WT:** 5 1/2", 15.5#, J-55 **PKR @** 4839'
PERFS: 5084- 89, 5092-5104, 5134-62' **TBG:** 2 3/8" **JTS:** Del.-177 In Well-154
12 Hrs. SI - SITP-240 psig **SICP-0**
Swab: Rec. 42.7 BTF, - 1.4% oil - 98.6% Water & BS, **Bbls. to Recover -** 16.2

Operations:

Started @ 7 AM. Ran in hole with 1 5/8" overshot. Retrieved standing valve. Rigged up to swab. Began swabbing. Swab report as follows:

Run	Fluid level-'	Swab Depth-'	Recovery			Percentage			Remarks
			BTF	BO	BW	Oil	Wtr.	BS	
1	600	2200	5.4						Acid water
2	1600	2500	5.4						Acid water
3	1875	3125	5.4						Acid water - trace oil
4	2750	3750	7.2						Acid water - & gas
5	4375	4830	5.4						Acid water & gas
6	3700	4830	3.6						Acid water & gas
7	3750	SN	2.1						Acid water & gas
8	3750	SN	2.1	0.05		5	90	5	Acid water & gas
9	4375	SN	1.0	0.05		5	90	5	Acid water & gas
10	4000	SN	0.8	0.04		5	95		Acid water & gas
11	4375	SN	1.8	0.36		2	95	3	Acid water & gas
12	4375	SN	.50	0.01		2	95	3	Acid water & gas
13	SN	SN	0						Acid water & gas
14	4375	SN	.50						Acid water & gas
15	4375	SN	.50						Acid water & gas
16	4000	SN	.50	0.01		2	95	3	Acid water & gas
17	4375	SN	.50	0.01		2	95	3	Acid water & gas

CIW & SDFN @ 4 PM. Mud knee deep and snowing.

11-18-96

PBD: 5,396' **FM:** Ismay **CSG SIZE/WT:** 5 1/2", 15.5#, J-55
PKR @ 4838', SN @ 4830'
PERFS: 5084- 89', 5092-5104', 5134-62' **TBG:** 2 3/8" **JTS:** Del.-177 In Well-154
12 Hrs. SI - SITP-600 psig **SICP-0**
Swab Daily: Total Hrs: 9 Swabbed: 17.72 BTF 0.76 BO, 16.84 BW, 0.12 BBS
Total Load: 58.9 Bbls. Load Rec. to date: 59.5 Bbls. Load to recover: 0

Daily Completion Reports

Petral Exploration, LLC
Knockando Unit #2, UTU-043651

November, 1996

Page 4

Run	Fluid level-'	Swab Depth-'	Recovery			Percentage			Remarks
			BTF	BO	BW	Oil	Wtr.	BS	
1	3300	SN	4.5			5%	90%	5%	Gas cut acid water
2	3500	SN	.75			5%	90%	5%	Gas cut acid water
3	4000	SN	.75			5%	90%	5%	Gas cut acid water
4	4300	SN	1.8			5%	90%	5%	Gas cut acid water
5	4300	SN	1.8			5%	90%	5%	Gas cut acid water
6	4300	SN	2			5%	90%	5%	Gas cut acid water
7	4300	SN	1.6			5%	90%	5%	Gas cut acid water
8	4300	SN	1.0			5%	93%	2%	7 pH - Salty taste
9	4300	SN	.75			8%	90%	2%	7 pH - Salty taste
10	4600	SN	.75			5%	95%	0%	7 pH - Salty taste
11	4600	SN	.75			5%	93%	2%	7 pH - Salty taste
12	4500	SN	.75			5%	93%	2%	7 pH - Salty taste
13	4600	SN	.50			5%	93%	2%	7 pH - Salty taste

11-18-96 - Continued**Operations:**

Started @ 7 AM. 600 psig on tubing, 0 psig on casing, 1530' fill in 15 hrs. Swabbed 9 hrs.
CIW & SDFN @ 5 PM.

Note: At 7:00 A.M. (11-19-96) SITP 560 psig. Bleed pressure off. Appeared to be natural gas. Flowed back with gas, 1 to 1.5 BO. Ran swab found fluid level at 3700'. 1138' fill up in 14 1/2 hrs. Ran swab & recovered 1.6 BO & 3 BW. Water salty to taste, pH 6. 2nd run recovered 1.8 BTF. 20% oil, 70% water & 10% BS. Plans are to pull tubing etc. run treating packer w/tailpipe and reacidize w/4500 gal. 28% MSR-100 acid w/230 ball sealers Wed. A.M. (11-20-96).

11-19-96

PBD: 5,396' **FM:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del.-177 In Well-154

Hrs. SI - 14 1/2 **SITP -** 560 psig **SICP-0**

PKR @ 4838' **FL @** 3700' - 1100' or 4.27 bbls. fill up

Swab: Hrs: 4 1/2 9.72 BTF, 2.96 BO (30.5%), 6.64 BW (68.3%), 0.12 BS (1.2%)

Run/Time	Fluid level-'	Swab Depth-'	Recovery			Percentage			Remarks
			BTF	BO	BW	Oil	Wtr.	BS	
1 / 7:30 \	3700	SN-4838'	3.0	1.16	1.84	300' Free oil, 800' water - pH 7 salty			
2 / 8:30	4700	SN	1.16	.23	0.81	20%	70%	10%	pH 7 - salty - acid taste
3 / 9:00	3900	SN	.80	.24	0.56	30%	70%	0%	pH 7, SG 1.15, Wt 9.5
4 / 9:45	4500	SN	.80	.18	0.81	21%	76%	3%	pH 7 salty
5 / 10:15	4400	SN	.75	.15	0.53	20%	70%	10%	pH 7
6 / 10:45	3900	SN	1.81	.54	1.18	30%	65%	5%	pH 6
7 / 11:15	4200	SN	.90	.22	0.60	25%	67%	8%	pH 7
8 / 12:00	4300	SN	.50	.50	0.31	30%	62%	8%	pH 7 salty

Operations:

Started @ 7 AM. Blow gas off in 3 1/2 min. Flowed back 2-3 BO while bleeding off gas. First swab run had 300' of free oil. Swabbed till noon. Loaded tubing w/18 Bbls. 2% treated KCl water. Tripped out of hole w/tubing and Baker PIP tool. Picked up Baker treating packer w/94.25' tail pipe. TIH and SDFN @ 4.30 PM.

Daily Completion Reports

Petral Exploration, LLC
Knockando Unit #2, UTU-043651

November, 1996
Page 5

11-20-96

PBD: 5,396' **FM:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well-154
Hrs. SI - 14 SITP - vac SICP-0
PKR @ 4859' TP @ 4953' FL @ 3700' = 1100' or 4.27 bbls. fill up
Flowing: 194.94 BTF, 13.16 BO (10%), 181.78 BW (90%),

Run/Time	Recovery			Percentage		Remarks
	BTF	BO	BW	Oil	Wtr.	
Flowing 1st Hr.	63.32					Flowing @ 150 psig. load & acid water.
2 nd	41.60	4.16	37.44	10%	90%	Flowing @ 150 psig. load & acid - oil gassy
3 rd	40.00	4.0	36.0	10%	90%	Flowing @ 80 psig. load water, gassy
4 th	25.01	2.5	22.51	10%	90%	Flowing @ 60 psig. fm. water. gassy
5 th	25.01	2.5	22.51	10%	90%	Flowing @ 60 psig. fm. water - gassy

Operations:

Started @ 8 AM. Dowell on location 1 Hr. late. Found pump truck suction and pump full of frac sand. Waited 3 hrs. for Dowell to clean out and set up. TIH to 5163' EOT. Tested lines to 4500 psig and held safety meeting. Spotted 5 Bbls. 28% MRS 100 Acid w/proper additives across perforations from 5162 - 5084'. Top acid @ 4953'. Spotted w/1 Bbls. 2% treated KCl water. Pulled up w/tail pipe @ 4953'. Packer @ 4859'. Pumped 19 Bbls. 28% MSR 100 acid @ 1.65 BPM holding 600 psig on backside. Set packer and continued job. Increased rate to 5.5 BPM @ 3620 psig. Broke back to 3410 psig. Started balls after break. After 4 min. had ball action 3780 psig to 3610 psig. Increased rate on flush to 6 BPM. Good ball action. Balled out @ 4000 psig w/4 Bbls. displacement left. Surged balls off perforations. Flushed to top of perfs.

ISIP 1510 psig, 5 min. 1510 psig, 10 min. 1510 psig, 15 min. 1500 psig.

Max. Pressure 4000 psig. Average pressure 3600 psig. Average pump rate 5 BPM.

Released Dowell. Total load to recover 129 Bbls. As of 6 PM 11/20/96 all load recovered.
CIW & SDFN @ 6:30 PM

Note: 7 AM 11-21-96 - SITP 1200 psig after 13 Hrs. SI. Bled off gas and in 30 min. flowed back 3.34 BO. At 7:30 AM FTP 300 psig. Flowing oil and water.

11-21-96

PBD: 5,396' **FM:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well-159
Hrs. SI - 14 SITP - 1200 SICP-0
PKR @ 4859' TP @ 4953'
Swabbed: 6 Hrs. 123.76 BTF - 13.5 BO & 110.2 BW

Run/Time	Fluid level-'	Swab Depth	Recovery			Percentage			Remarks
			BTF	BO	BW	Oil	Wtr.	BS	
7-8 AM	Flowing		3.34	3.34		100			Gas-FTS in 30 min. strong blow
8-9	Flowing		10.2	.10	9.92	10	90		Highly gas cut water w/oil
9-10	Flowing	@ 50#	15.03	1.50	13.53	10	90		Highly gas cut
10-11	Flowing	@ 30#	8.35	.83	7.25	10	90		Died off
1	850	3750	6.68	.66	6.02	10	90		Gas cut
2	850	3750	10.02	.10	9.92	10	90		Highly gas cut
3	1250	4300	8.35	.83	7.25	10	90		Highly gas cut
4	1250	4300	8.35	.83	7.25	10	90		Highly gas cut
5	1250	4300	8.35	.83	7.25	10	90		Highly gas cut
6	1400	4300	5.01	.50	4.91	10	90		Highly gas cut

Daily Completion Reports

Petrar Exploration, LLC

November, 1996

Knockando Unit #2, UTU-043651

Page 6

7	1400	4300	8.35	.83	7.25	10	90		Highly gas cut
8	1400	4300	10.02	1.00	9.02	10	90		Highly gas cut
9	1400	4300	8.35	.83	7.25	10	90		Highly gas cut
10	1400	4300	6.68	.66	6.02	10	90		Highly gas cut
11	1400	4300	6.68	.66	6.02	10	90		Highly gas cut
Well flowed 3 min. behind each swab run. pH 8, Sp 1.15, Wt. 9.5ppg									

Operations:

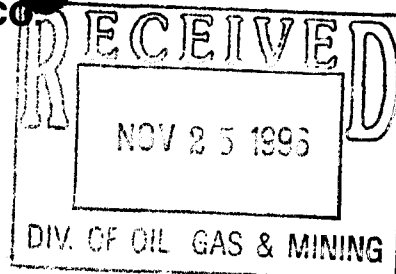
Opened well up. Took 30 min. to bleed gas off well. Began flowing oil and highly gas cut water to test tank. Well died in 3 Hrs. Began swabbing.

CIW & SDFN @ 5:30 PM

FOUR CORNERS DRILLING CO

P. O. BOX 1067
5651 U.S. HWY. 64
FARMINGTON, NEW MEXICO 87499

TELEPHONE: (505) 326-3371
FAX: (505) 326-3370



OCT 28 1996

October 25, 1996

Petral
Diane Shroyer
P.O. Box 5083
Denver Co. 80217

**RE: Deviation report on the Knockando #2
Section 33, Township 38 S, Range 25 E
San Juan, Utah**

Gentlemen:

Below is the deviation report for your Knockando #2

121'	1/4°
268'	3/4°
357'	3/4°
479'	3/4°
670'	1°
923'	1°
1252'	1 1/4°
1511'	1 1/2°
1777'	3/4°
2027'	1/4°
2275'	3/4°
2493'	1°
2727'	1 1/2°
3227'	3/4°
3746'	1°
4225'	1 1/4°
4743'	1 3/4°
5271'	3/4°

*in 3270' it
shows
T. 375.*

Sincerely,

FOUR CORNERS DRILLING COMPANY

Gary Miller
Gary Miller
Drilling Superintendent

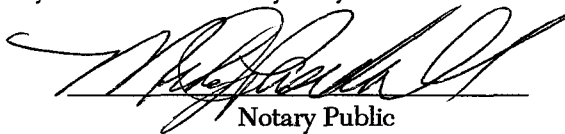
GM/tdd

October 25, 1996
Knockando #2
PAGE 2

Acknowledgement

State of New Mexico)
) s.s.
County of San Juan)

The foregoing instrument was acknowledged before me this ²⁵~~11~~th day of October, 1996, by Gary Miller.


Notary Public

My Commission Expires : 8/26/98
(seal)

facsimile

TRANSMITTAL

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: December 2, 1996
pages: 4 , including cover sheet.

Weekly progress reports

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlray & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473 1218

Daily Completion Report

Petral Exploration, I.L.C.
Knockando Unit #2, UTU-043651

November, 1996
Page 8

11-23-96 continued

Operations: Finished TOH & TIH w/RBP and packer. Set retrievable bridge plug @ 5126', (between upper perfs @ 5084'-5104' and lower perfs @ 5134 - 5162'). Set packer at 5000'. Swabbed the well down in 5 runs to 5000'. Recovered 41.75 BTF (22.24 Bbls. over the load) cutting 2% oil, slightly gas cut. Reset packer @ 4940'. Swabbed well down. Recovered 19.62 BTF cutting 2% oil, slightly gas cut. Released the packer and rechecked to be sure the bridge plug was in the right spot. Okay. Reset the packer at 4940'. Swabbed the well down to the seating nipple @ 4940'. Recovered 11.87 BTF cutting 2% oil with a slight blow of gas. CIW & SDFN @ 6:30 PM. Will be shut down Sunday. Swab results are inconclusive. Will swab Monday AM (11/25/96). Anticipate swabbing Monday and preparing to run Tracer/Temp survey on Tuesday.

11-24-96 - Shut down on Sunday**11-25-96**

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del.-177 In Well-157
Hrs. SI-38 SITP-1350 SICP-30 PKR @ 5000' TP @ 5176' FL @ 3900' = 1040' = 4Rbbls
Swabbed: 5 1/2 Hrs. 3.33 BTF - .93 BO & 2.4 BW.

Run/ Time	Fluid level-'	Swab Depth	Recovery			Percentage			Remarks
			BTF	BO	BW	Oil	Wtr.	BS	
1	3900	4940	2.5	.77	1.75	30	70		L. Gas pH 7
2	3900	4940							Dry run - blow gas
3	3900	4940							Dry run - light blow gas
4	3900	4940	.83	.16	0.65	20	80		1/2" in swab tank
5	3900	4940							Dry run - small blow gas
6	3900	4940							Dry runs - small blow gas

Operations: Started operations @ 7 AM. SITP 1300 psig. Bled gas off tubing. Burnable gas w/spray of oil. Made 1 swab run every hour. After each swab run had light blow of gas. Loaded tubing with 2% KCl water. Unseated packer and RBP. Reset RBP @ 5345.7' KB. Set packer. @ 4840' KB. Prepared to run tracer/temperature survey in 11/26/96. CWI & SDFN @ 4 PM.

11-26-96

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del.-177 In Well-154
Hrs. SI - SITP-300 SICP-100 PKR @ 4840' RBP @ 5345' FL @ 3900' - 1040' or 4 Bbls.

Operations: Wait on Cardinal Wireline. Arrived on location at 10 AM. Rigged up and started in hole. Stranded wireline and repaired same. Ran GR Correlation log. Correlated to Schlumberger open hole log GR. Ran base temperature survey. Ran radioactive tracer survey. Pumped at 1/2 BPM @ 150 psig. Pumped a total of 45 Bbls. treated 2% KCl water. Reran temperature surveys. See logs for results. Temperature log indicates majority of fluid loss, 90-95%, is through lower perfs 5134 - 62' due to either annular channeling or communication through formation. Logger stated that tracer survey confirmed this conclusion. If tracer confirms temperature log results, then at least part of the channeling is in the annulus. Waiting for field copy of tracer log to confirm the channeling. CIW & SDFN @ 6 PM

11-27-96

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del.-177 In Well-154
Hrs. SI - 13 SITP - 250 SICP - 75 PKR @ 4840' RBP @ 5345'

Operations:

Blew well down to tank. Had gas bubble. Unseated packer and picked up tubing. TIH w/Baker RBP @ 5341'. TOH laying down Baker tools. Put "F" Nipple on bottom of tubing and ran 30 stands for kill string. CIW & SDFN Waiting on Orders @ 12 PM

Daily Completion Report

Petral Exploration, I.I.C.
Knockando Unit #2, UTU-043651

November, 1996
Page 9

11-28-96

Shut down for Thanksgiving

11-29-96

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well-154
Hrs. SI - SITP - 300 SICP - 300

Operations:

Blew well down. TOH with kill string. Rigged up Petro Wireline. Ran junk basket and gauge ring. Ran in with Baker cement retainer. Tagged and set retainer @ 5112'. Released wireline truck. Ran in hole with tubing and cement retainer stinger. Waited 4 hrs. on Dowell. Hooked up Dowell. Stung into retainer. Pressured casing to 700 psig. Filled tubing with treated 2% KCl water. Broke down @ 2300 -1800 psig pumping @ 3/4 BPM. ISIP 0 psig. Pulled out of retainer. Mixed and spotted 50 sks Class G cement w/.05 Flax to bottom of tubing. Stung into retainer. Kept 700 psig on casing. Displaced cement with 11 1/2 Bbls. treated 2% KCl water at 0 psig. Slowed pump rate to 1/4 BPM. With 17 Bbls. displacement in (19 1/2 Bbls. tubing volume), began to stage cement at 10 min. intervals. Staged for 1 Hr. pumping at 1/8 to 1/4 BPM. Pump pressure 300 psig. Began staging every 15 min. Pumping 1/8 to 1/4 BPM. With 19 Bbls. displacement in, pressure increased to 2500 psig. Released pressure. No flow back. Pressured back up to 2500 psig. Held solid. Stung out of cement retainer and reversed tubing with 60 Bbls. treated water. Reversed out 1/2 Bbl. cement. Approximately 10 Bbls. or 45 sks. cement pumped into perforations. Appear to have good squeeze. Pulled 41 stands of tubing. CIW & SDFN @ 8:30 PM.
Weather 3 to 4" of snow followed by rain. Mud knee deep (or deeper).

11-30-96 & 12-1-96

Waiting on cement. Will drill out 12/2/96.

facsimile

TRANSMITTAL

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, I.I.C., #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: December 6, 1996
pages: 2 , including cover sheet.

Weekly progress reports

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlray & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473-1218

Daily Completion Report

Petral Exploration, I.L.C.
Knockando Unit #2, UTU-043651

November, 1996
Page 10

12-2-96

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 60 Jts. Kill String
Hrs. SI - 60 SITP - 100 SICP - 50

Operations:

Blew casing and tubing down. TOH with 2 3/8" tubing and Baker Stinger. Lay down stinger and picked up 4 3/4" bit and bit sub. TIH, SIM. Tagged up 3' high to last trip. Rigged up drilling equipment. Drilled about 1' of cement and were on the cement retainer. Drilled about 1 1/2' of cement retainer. Reverse circulated large pieces of the cement retainer out of the well. Reverse circulated the well clean. Needed to repair rig pump swab. Pulled out of hole 4 Stds. CIW & SDFN @ 7 PM. Will resume drilling retainer and cement in AM.

12-3-96

PBD: 5,396' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well - 155
Hrs. SI - 12 SITP - 0 SICP - 0

Operations:

Changed out 1 swab on rig pump. TIH w/tubing. Started drilling on cement retainer. Drilling 1 1/2 Hrs. TOH to change bit. Pulled bit had a few teeth missing and bearings loose. TIH and drilled on retainer. Shut down for pump repairs. Retainer drilling hard, made 1 1/2' - looks like part of the retainer is turning with bit. Will try to break it up while drilling. Pulled 4 stands off bottom. Present PBD 5115' CIW & SDFN @ 6 PM.

12-4-96

PBD: 5,142' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well - 155

Operations:

Started operations @ 7 AM. Rig would not start and pump needed repair. Waited on mechanic. Repairs finished as 12 noon. Began drilling cement retainer - drilled same out. Drilled cement to 5142'. Circulated hole clean and waited on Schlumberger 1 Hr. Ran Schlumberger GR correlation log through tubing. Correlated to Schlumberger GR-BHCS log and GR-CCL log. Tagged top of bit sub with wireline after correction at 5140' KB. Plug back depth with bit and bit sub 5141.36'. CIW & SDFN @ 7:30 PM.

Will drill an additional 6" prior to tripping out of hole 12-5-96 to perforate. Will swab well down to 3000' 12/5/96 AM & perforate w/Schlumberger 3 1/2", 34 Gr. EHC gun w/4 holes/ft. 5134 - 5140'

12-5-96

PBD: 5,142' **FM:** Upper Ismay **PERFS:** 5084- 89', 5092-5104', 5134-62'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" : **JTS:** Del.-177 In Well - 163
PKR @ 5122' - TP @ 5140'

Operations:

Trip to bottom to circulate hole with 2% treated KCl water. Drilled 6" and circulated hole w/125 Bbls. Pulled tubing up to 5000'. Swabbed fluid down to 3100'. TOH and rigged up Schlumberger wireline. TIH and logged collars. Tagged bottom @ 5142' and correlated to GR-CCL cased hole log and Schlumberger GR-BHCS log. Perforated 4 holes/ft. with 3 1/2" EHC 34 Gr gun from 5134 - 40'. Picked up 18' tail pipe with "F" nipple on bottom of tail pipe. Ran with Baker Fullbore Packer and 2 3/8" tubing. Tagged PBD, spaced out and set packer @ 5122' w/bottom of tail pipe @ 5140'. Fluid level before perforating @ 3100' after 2700' (400' fill). Swabbed 1 1/2 Hrs. - 3 runs, final run swabbed from SN @ 5140' and FL @ 3220'. Recovered 18 Bbls. 100% KCl.

facsimile

TRANSMITTAL

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: December 13, 1996
pages: 5 , including cover sheet.

Weekly progress reports

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlnay & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473 1218

Drilling Prognosis
#2 Knockando Unit, San Juan Co., UT

May, 1996
Page 10

12-6-96

PBD: 5,142' FMN: Ismay PERFS: 5084- 89', 5092-5104', 5134-40'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 TBG: 2 3/8" JTS: Del.-177 In Well - 163

SITP: 50 psig SICP: 100 psig PKR @ 5122' - SN 5140'

SWABBING OR FLOWING REPORT:

Time/Run No.	Fluid level	Swab depth	RTF	BO	BW	%Oil	%WTR	%BS	REMARKS
7 A.M. F.L. 3000'. 200' fillup or 3/4 Bbls. in 12 1/2 hrs.									
8:00/ 1	3000	SN				TR	100		K.C.I H2O
8:00/ 2	3200	SN							K.C.I H2O SP 1.04
8:00/ 3	3400	SN	16			TR	100		WT 8.6 ppg
9:00/ 4	3700	SN				TR			WT 8.5 ppg
9:00/ 5	3900	SN	10.02			TR	100		SP 1.03
10:00/ 6	4000	SN				TR	100		
10:00/ 7	4100	SN				TR	100		K.C.I H2O
10:00/ 8	4200	SN	6.68			TR	100		WT 8.4
10:00/ 9	4400	SN				TR	100		
11:00- 12:00/ 10		SN							Dry Run
12:00-1:00/ 11	4900	SN	.75			TR	100		Muddy H2O SP 1.03
2:00/ 12	4900	SN	1.67			TR	100		WT 8.5 ppg SP 1.03
3:00/ 13		SN	1.25				100		
4:00/ 14	4900	SN	.75			TR	100		Muddy Looking H2O

Total Swabbed: 8Hrs. Total Fluid Swabbed: 37.12 BTF: 0 BO: 37.12

Load Rec. to date: 54.82. 0 Bbls to rec. Tubing 50 psig. Casing 100 psig. Rig up to swab. Swabbed down @ 11 A.M. waited 30 minutes between runs, till 12 P.M. Then waited 1 hr. between runs. SWIFN @ 4:30 P.M. Weather rain and snow.

12-7-96

PBD: 5,142' FMN: Ismay PERFS: 5084- 89', 5092-5104', 5134-40'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 TBG: 2 3/8" JTS: Del.-177 In Well - 163

SITP: 50 psig Shut in 15 hrs. SICP: 100 psig PKR @ 5122' - SN 5140'

SWABBING OR FLOWING REPORT:

Time/Run No.	Fluid level	Swab depth	RTF	BO	BW	%Oil	%WTR	%BS	REMARKS
1	1900	SN	1.61			TR	100		Gas muddy looking Water WT 8.9/#gal
2	4900	SN				TR			Dirty water
3	4900	SN	3.70			TR			Salty Taste
4	4900	SN	1.25			2%	98		Gas- cut dirty H2O

Total Swabbed: 4Hrs. Total Fluid Swabbed: 6.72 BTF: .02 BO: 6.70 Load Rec. to date: 61.5

Operations:

Blew tubing down. Blew casing down in 12 minutes. Burnable gas. Swabbed well down in 4 runs. Sand line stranded. Cut 300' off and poured new rope socket. CIW & SDFN @ 2 P.M. Dowell hopes to have pump truck available for acid job. Mon A.M. (12/8/96). Will acidize with 350 gal. 7 1/2% MSR-100 Mon A.M.

11-8-96 7A.M.**Operations:**

SITP 50 psig. Made swab run found fluid level @ 1900'. 3200' or 12.4 Bbls. Filled up in 4hrs. Approximately 50' of oil on top. Remaining saltwater. 819 #/gal Wt. Will swab dry & acidize.

Drilling Prognosis
#2 Knockando Unit, San Juan Co., UT

May, 1996
Page 11

11-9-96

PBD: 5,142' **FMN:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-40'
CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del-177 **In Well - 163**
SITP: 50 psig Shut in 52 hrs. **SICP:** 150 psig **PKR @ 5122' - SN 5140'**
F.L. @ 1900-3240 or 12.53 bbl of fill up

SWABBING OR FLOWING REPORT:

Time/Run No.	Fluid level	Swab depth	BTF	BO	BW	%Oil	%WTR	%BS	REMARKS
7:00/ 1	1900	3700	40.88, 50' of free Oil on top. Wash Wt. 8.9/#gal						
After Acid Job									
10:00/3		5100							Dry Run
2:00 P.M.	0	2800							WT 8.6 ppg
	1200	3000	23.34		23.34	TR	100		Acid Water
3:30	1300	3100	5.02		5.02				"
	1300	3600	7.11		7.11	TR	100		Slight gas cut
4:00	1755	4095							light gas vapor
	1800	4095	27.47		27.47	TR	100		Ph7 Wt 9.7#/gal Salty Taste
	2100	4095							Ph7 Wt 9.7#/gal
	2340	4095							Ph7

Total Swabbed: 311rs. **Total Fluid Swabbed:** 62.94 **BTF:** Tr.

Total Load: 122 Bbls. (Included tubing and annulus volume plus acid)

Load Rec. to date: 62.94. 59.06 bbls to recover.

Operations:

Blew casing and tubing down. Swabbed tubing down in 13 runs. Hooked up Dowell and loaded casing with 60 Bbls. treated 2% Kcl water. Pressured casing to 700 psig. Pumped 350 gal (8.33 Bbl.) 7 1/2% MSB-100 acid down tubing followed with 12 Bbls. treated 2% Kcl water. With acid on formation shut down 5 min and allowed to soak. Pumped 1/2 Bbl. @ 500 psig (700 psig on annulus).

Bleed off to 300 psig in 3 min. Pumped 1/2 Bbl. @ 680 psig for 10 stages. Each stage bleed off to 320 psig in 5 min. Maintained 600 psig on annulus. On stage 11 pumped 1/2 Bbl. @ 730 psig. Tubing and casing pressures equalized indicating communications (6Bbls. acid pumped into perforation). Entire weight of tubing on packer. Do not believe communications around packer but rather between perforations (i.e. 5134' to 5104'). Continued to pump remaining acid @ 1/2 Bbl. Stages @ 820 psig (tubing & annulus). Allowed to bleed off to 420 psig between stages. After displacing acid down tubing, pumped 1 Bbl. treated 2% Kcl down annulus. Bleed tubing & casing off and began to swab. Annulus on vacuum while swabbing tubing. CIW & SDFN @ 4:30 P.M.

Rained all night and still raining. Montezuma creek out of banks and still getting deep. May have to shut down operations if creek gets much deeper. Could trap crews @ location.

Drilling Prognosis
#2 Knockando Unit, San Juan Co., UT

May, 1996
Page 12

11-10-96

PBD: 5,142' **FMN:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-40'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del.-177 **In Well - 163**

SI 13 Hrs. **SITP:** 50 psig **SICP:** 220 psig **PKR @** 5122' - SN 5140'

F.L.@ 2340'

SWABBING OR FLOWING REPORT:

Time/Run No.	Fluid level	Swab depth	BTF	BO	BW	%Oil	%WTR	%BS	REMARKS
7:30A.M/ 1-10	swab down	5140	60.05		60.05	TR	10	TR	Acid H2O Wt 8.9, Ph 7 Gas vapors
11-12	4100	SN	4.22	3.37	1.85	80	20		Gassy Oil Casing Blowing Gas
13-14	4500	SN	2.5	1.80	.70	80	20		Casing Blowing Gas
12:30 P.M.	Shut Down 30 min to change swab cups.								
1:00 P.M./ 15	3700	SN	3.34	3.34		100			Gassy Oil
16	4095	SN	3.34	3.34		100			Gassy Oil
17	4300	SN	2.00	.40	1.60	20	80		120 psig on casing
18	4300	SN	2.00	.20	1.80	10	90		Wt 1120 8.9#/gal Ph 9
19	4450	SN	1.67	.03	1.64	2	98		
20	4680	SN	2.00	.04	1.96	2	98		
2:00 P.M./ 21-22	4680	SN	3.75	.07	3.68	2	98		
At 2:30 P.M. move Packer Above Perfs. Set Packer 5062' Tail @ 5080'									
3:15/ 23	4730	SN	.81	.01	.80	2	98		Salty H2O 8.8#/gal
24	4820	SN	.81	.02	.79	3	97		Ph 7
4:30/ 25	4900	SN	.81	.02	.79	3	97		Gassy Fluid

Total Swabbed: 81 hrs. **Total Fluid Swabbed:** 87.3 **BTF:** 12.64 **BO:** 74.66 **BW**

Total Load: 122 Bbls. **Load Rec. to date:** 122 Bbls. 0 Bbls. to recover.

Operations:

Blew tubing down instantly. Blew casing down in 8 min. thru 2" valve 1/2 open. Swabbed well down. Oil increased on swab runs 13-14-15 then started decreasing. Unseat packer & moved same up hole above all perforations. Set packer @ 5062'. Tailpipe @ 5080'. Continued to swab.

CIW & SDFN @ 5:00 P.M. Heavy rain. Deep mud & flooding in area.

Note: Oil recovered during runs 11 thru 18 was oil that was in casing and tubing annulus. There is communication between the lower and bottom perforation, therefore, oil in annulus was recovered when annulus was swabbed down while swabbing tubing. Majority of oil recovered came from perforations 5084'-5104'.

Drilling Prognosis
#2 Knockando Unit, San Juan Co., UT

May, 1996
Page 13

12-11-96 A.M.

PBD: 5,142' **FMN:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-40'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del-177 **In Well - 163**

SI 14 Hrs. **SITP:** 700 psig **SICP:** 0 psig **PKR @** 5062' - SN 5080'

F.L. @ 2340' Bled pressure off in 9 min. Burnable gas. 1100' fill up or 4.25 Bbls. in 14 hrs.

Ran swab. Recovered 300' free oil (1.16 BO) 800' salty water, 27.3% oil.

SWABBING OR FLOWING REPORT:

Time/Run No.	Fluid level	Swab depth	BTF	BO	BW	%Oil	%WT	%BS	REMARKS
8 A.M/1	3800	SN @ 5080'	4.18	0.84	3.34	20	80		
8:30/1	4200	"	4.18	0.42	3.76	10	90		
9/1	4450	"	0.84	0.03	0.81	3	97		
9:10/1	4800	"	0.42	Tr	0.42	Tr	100		
9:25/1	4930	"	0.42	Tr	0.42	Tr	100		
10/1	4680	"	1.67	Tr	1.67	Tr	100		
10:15/1	4780	"	0.42	Tr	0.42	Tr	100		
10:30/1	4800	"	0.42	Tr	0.42	Tr	100		
11:10/1	4780	"	0.84	Tr	0.84	Tr	100		
1:15/1	4780	"	0.84	0.03	0.81	3	97		
2:25/1	4780	"	0.84	0.03	0.81	10	90		
3:30/1	4780	"	0.84	0.08	0.76	10	90		
4:30/1	4780	"	0.84	0.13	0.71	15	80	5	
8 1/2 Hrs. Total			16.75	1.56	15.19	9	91		Wt. 9.3#, Ph 7 - Gas blow behind each run

Details: Oil on location 45 Bbls. Cum. since start of completion. This A.M. (12/12/96) will trip out hole with tubing & packer. Rerun tubing, pump oil on location into casing, secure well and start moving equipment to Knockdhu #2.

12-12-96

PBD: 5,142' **FMN:** Ismay **PERFS:** 5084- 89', 5092-5104', 5134-40'

CSG SIZE/WT: 5 1/2", 15.5#, J-55 **TBG:** 2 3/8" **JTS:** Del-177 **In Well - 161**

SI 14 Hrs. **SITP:** 700 psig **SICP:** 0 psig **PKR @** 5062' - SN 5080'

F.L. @ 3780' = 1380' or 5.35 bbl of fill up in 14 hrs.

Swabbing or flowing report:

Time/Run No.	Fluid level	Swab depth	BTF	BO	BW	%Oil	%WTR	%BS	REMARKS
8:00/1	3780	SN	3.34	1.16	2.18	35	65		Gas cut

Details: Blew tubing down in 7 min. Burnable gas. Trip out hole w/ tubing & packer. Trip in hole w/ 161 jts. 2 3/8" tubing with barred collar on bottom of tubing. Nipped down BOP and installed well head. Pumped 47 BO down tubing. Removed oil scum from reserve pit and pumped down tubing. Secured well. Rigged down pulling unit and prepared to move to Knockdhu #2.

Tubing String Details:

1- 2 3/8" Barred Collar	0.40'
1- 2 3/8", 4.7 #/ft., J-55, EUE, tbg.	5044.31'
Total Tubing	5044.71'
Landed Tubing Below KB	+ 10.00' K.B.
Tubing Set @	5054.71'

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Designation and Serial No. UTU-043651
2. Name of Operator Petral Exploration, LLC	6. If Indian, Allottee or Tribe Name NA
3. Address and Telephone No. c/o McIlnay & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604	7. If Unit or CA, Agreement Designation Knockando Unit UTU-75217X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW)	8. Well Name and No. Knockando Unit #2
	9. API Well No. 43-037-31780
	10. Field and Pool, or Exploratory Area Wildcat
	11. County or Parish, State San Juan, UT

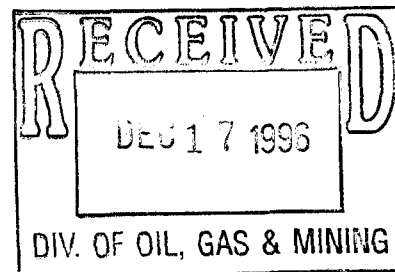
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other Temporarily SI	<input type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The well is being temporarily shut-in for evaluation. Completion unit is being moved to the Knockdhu #2..



14. I hereby certify that the foregoing is true and correct.

Signed David D. McIlnay Title McIlnay & Associates, Inc. Consulting Engineers Date 12-13-96

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____

Conditions of approval, if any: _____

McILNAY

McILNAY & ASSOCIATES, INC.

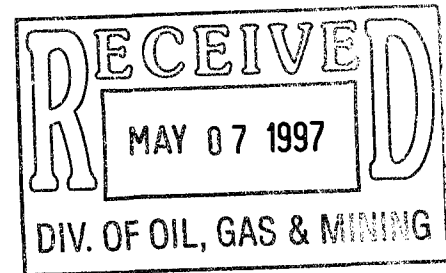
2305 OXFORD LANE • CASPER, WY 82604 • (307) 265-4351 • FAX (307) 473-1218

PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

May 5, 1997

Mr. Mike Hebertson
Utah Board of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203



Re: Application for Directional Drilling, Petral Exploration, LLC, #2 RDH Knockando Federal
Surface Location: 2018' FSL & 1388' FWL Sec. 19-T37S-R25E (NW NE SW)
Bottom Hole Location: 2718' FSL & 1764' FWL Sec. 19-T37S-R25E (SW SE NW)
Sec. 19-T37S-R25E San Juan County, Utah, Lease # UTU-075897

Gentlemen:

On behalf of Petral Exploration, LLC, we hereby apply for approval to directionally drill subject well.

Attached are the following documents:

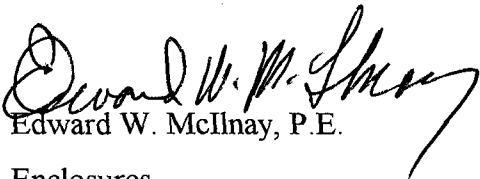
- 1) Information for Utah Regulation R649-3-11.
- 2) Location plat.
- 3) Directional drilling plat.
- 4) Federal Sundry Notice w/Proposed Prognosis and Attachments

It is requested that all information regarding this well be held CONFIDENTIAL.

Please contact us if there are any problems or if you need and additional information. Please notify Mr. Gary Torres, Bureau of Land Management, 82 East Dogwood, Suite M, Moab, UT 84532 (801) 259-2117 of your approval.

Very truly yours,

McILNAY & ASSOCIATES, INC.


Edward W. McNay, P.E.

Enclosures

EWM/so

cc: Petral Exploration, LLC
Rose Exploration Associates

INFORMATION FOR STATE DIRECTIONAL DRILLING PERMIT

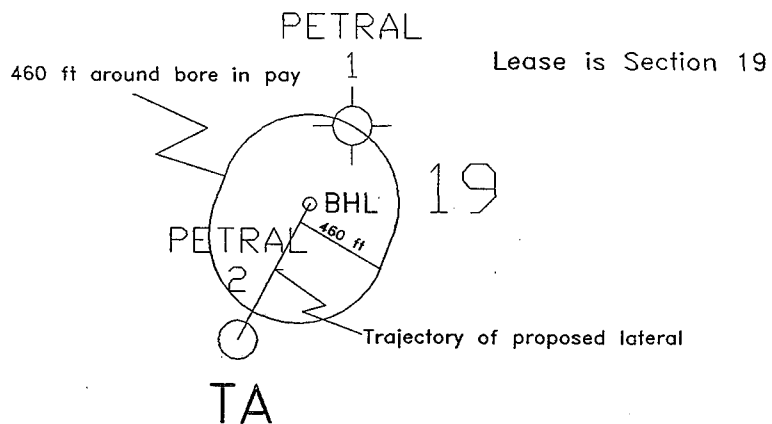
PETRAL EXPLORATION #2RDH Knockando-Federal

R649-3-11 Directional Drilling (Utah regulations)

- 2.1 Petral Exploration LLC
% McIlnay & Associates
2305 Oxford Lane
Casper, Wyoming 82604 307/265-4351
- 2.2 Federal lease UTU-075897; well name and number # 2RDH Knockando-Federal; Unnamed Field; reservoir is Upper Ismay; is in San Juan County, Utah.
- 2.3 Plat is attached. There are no other owners within 460 feet of the proposed trajectory of the deviated well bore, and the well bore does not approach within 460 feet of the lease line.
- 2.4 The reason for the intentional deviation of this well is to drill a 650 foot essentially horizontal lateral to attempt to obtain commercial oil and gas production from a known porous, hydrocarbon bearing zone encountered in the Petral Exploration # 2 Knockando Unit well at the depth of 5136-6161. Core and DST data indicate that fluids contained in this zone are water free hydrocarbons. Core and DST data indicate that the deeper porous zone 5170-5196 is water bearing. A completion attempt through perforations 5170-5196 recovered mostly formation water with some hydrocarbons which strongly suggests a that good cement job was not obtained and that communication with the lower water zone occurred. The perforations were squeezed and the formation re-perforated 5134-5140. Swabbing of these perforations again recovered mostly formation water with some hydrocarbons indicating that the squeeze was not successful. Available information identifies an oil/water contact at about 5162 (-128 sub-sea) and the well bore will not be allowed to penetrate TVD below this datum. The lateral will be drilled updip (NE) within the known water free hydrocarbon zone. An up angle slightly greater than regional dip (SW) will be maintained to attempt a partial tangential traverse of the zone.

T37S R25E

SCALE 1 in = 1000 ft



To accompany directional drilling
permit request for PETRAL
#2RDH Knockando-Federal

PROGNOSIS
For Cutting Window, Sidetracking and Drilling Lateral

May, 1997

OPERATOR: Petral Exploration LLC
WELL: #2 Knockando RDH
LOCATION:
 Surface: 2018' FSL & 1388' FWL (NW NE SW)
 Proposed BHL: 2718' FSL & 1764' FWL (SW SE NW)
 Section 19-T37S-R25E, San Juan Co., UT
ELEVATION: G.L. 5021' (graded); KB 5033'
T.D.: Driller: 5447' RKB; Logger: 5443' GL

Current Wellbore Conditions:

Surface Casing:

1	Dowell Guide Shoe	1.00'
1	Jt. 8 ⁵ / ₈ " 24#/ft., J55, 8R, STC new casing	42.08'
1	Dowell Insert Float	0.00'
59	Jts. 8 ⁵ / ₈ " 24#/ft., J55, 8R, STC new casing	<u>2417.14'</u>
	Total String	2514.25'
	Landed above KB	<u>-4.00'</u>
	Casing Landed KB	2510.25' KB

Production Casing Detail:

1	Dowell Differential Fill Shoe	2.00'
1	Jt. 5 ¹ / ₂ ", J55, 15.50 #/ft., LT&C, 8Rd, New Casing	42.28'
1	Dowell Differential Fill Float Collar	1.64'
129	Jts. 5 ¹ / ₂ ", J55, 15.50 #/ft., LT&C, 8Rd, New Casing	<u>5425.83'</u>
	Total Sting	5471.75'
	Landed above KB	<u>-28.05'</u>
	Casing Landed KB	5443.70'
	PBD	5142.00' KB

Cementing Detail: Broke circulation with rig pump. 10 Bbls of water ahead of 20 Bbls. of CW7 Mud Flush followed by 10 Bbls of water. Mixed and pumped 52 Sx of 65/35 G-Poz cement with 6% gel & 1/4#/sk. Flocele followed by 453 sx. of 50/50 G-Poz Self Stress 1 cement with 2% gel, 0.5% Fluid Loss Additive, and 0.25 #/sk. Flocele. Good returns throughout, bumped plug with 1750 psig. Floats held. Plug down at 8:00 p.m. 10/23/97.
Top Cement (as per CBL): 3544' KB

Tubing String Detail:

1	2 ³ / ₈ " Barred Collar	0.40'
161	2 ³ / ₈ ", 4.7 #/ft., J-55, EUE, tbg	5044.31'
	Total Tubing	5044.71'
	Landed Tubing Below KB	+10.00'
	Tubing Set @	5054.71' KB

Formation Top Upper Ismay Mound: 5084' KB

Perforations (Upper Ismay Mound):

5084 - 5089' KB 29' w/ 116 Holes

5092 - 5401' KB 13' w/ 52 Holes

* 5134 - 5140' KB 6' w/ 24 Holes (Reperforated)

*Initial perforations 5134 - 62' KB.

Cement squeezed with 45 sks. cement into perforations. Cement was drilled out to 5142' and reperforated 5134 -5140' KB.

Estimated Time to Complete Project:

1½ days squeeze cement current perforations.

7½ days to cut window, sidetrack and drill 650' +/- of lateral hole.

Perforation Cement Squeeze Program:

1. Move in and rig up pulling unit, rig pump and BOP.
 2. Pick up additional tubing and set bottom of tubing at 5140' KB. Reverse circulate casing with fresh water.
 3. Spot 50 sks. Class G with 0.5% B-14 Flac @ 5140' to 4709' KB.
 4. Pull tubing to 4500'. Reverse circulate and clear tubing of cement.
 5. Shut pipe rams and squeeze cement perforations. Do not exceed 2000 psig surface pressure. Stage cement as required. Do not displace cement below 5050' KB. If a squeeze is obtained, leave well shut-in at final squeeze pressure (not > 2000 psig) for minimum of 12 hours.
 6. Check PBD with tubing and trip out laying down tubing. Release pulling unit.
 7. If the cement top is below 4997' KB utilize a mast truck and run on wireline a gauge ring and junk basket. With wireline set the top of a CIBP @ 4985' KB (GR-CBL-Collar log measurements). If cement top is above 4997' KB it will be necessary to drill out with the rotary rig to be used for cutting window and sidetracking .
- NOTE: Casing collars @ 4970' and 5112 KB.

Window Cutting, Side Tracking and Lateral Hole Drilling Program:

1. Move in and rig up rotary tools.
2. Pressure test well control equipment as per specifications set forth in "Minimum BOP and Accessory Control Equipment" section.

Window Cutting Operations:

3. If CIBP has been preset, pickup and TIH with Weatherford whipstock assembly, 2 $\frac{7}{8}$ " AOH drill pipe and 30, 4 $\frac{1}{8}$ " drill collars. If drilling out of cement is necessary, TIH with 4 $\frac{3}{4}$ " bit, DP and DC and dress cement off to 4997' KB and the run whipstock assembly.
4. With the top of whipstock positioned at \approx 4985' KB (Casing collars @ 4970' and 5112' KB) and utilizing a surface recording gyro instrument orient tool face to an azimuth of 28.20°. Set whipstock at this orientation.
5. Make initial cut of window with starting mill. Circulate hole clean and TOH.
6. On TOH run gyro survey from 4985' KB to surface. Calculate location of hole at 4985' KB.
7. TIH with window mill and water melon mill. Resume milling operations until complete assembly has cleared casing. Circulate hole clean and TOH. If window milling assembly shows extreme wear may need to repeat operations.

Side Tracking and Lateral Hole Drilling Operations:

1. Pick up, orient, and test BHA #1 consisting of: See BHA Attachment I.
2. Run in hole to KOP (4985' KB). Break circulation at 100 gpm and drill one foot to insure proper operation of motor.
3. Run in hole with surface recording gyro. Seat same in mule shoe. Orient tool face to desired azimuth of 28.20°
4. POOH with gyro.
5. Begin pumping at 100 gpm and drill ahead slowly increasing differential to 200 psi. Drill ahead checking tool face orientation as necessary with the gyro until sufficient inclination has been built to steer from high side tool face reading (see Attachment III).
6. PU steering tool and run in hole to seat steering tool in mule shoe. RU Wet Connect.
7. Continue drilling at the same flow rate and pressure to complete the build portion. (see Attachment III).
8. Circulate hole clean.
9. Trip out of hole to Wet Connect and retrieve steering tool.
10. Continue trip out of hole with BHA #1 and lay down same.
11. Pick up, orient, and test BHA #2 (lateral assembly), TIH. (see Attachment II).
12. PU steering tool and run in hole to seat in mule shoe. RU the Wet Connect.
13. Drill ahead following the programmed well path at 100 gpm and 200 psi differential pressure to TD (see Attachment III).
14. Circulate hole clean.
15. Trip out of hole to Wet Connect and retrieve steering tool.
16. Continue trip out of hole with BHA #2.

NOTE: Oil/water contact in the well bore is at 5162' KB (-126 subsea). Lateral hole must be kept above this datum (see Attachment V).

Hole Size:

4 $\frac{3}{4}$ " from KOP to TD. (See Attachment IV for Bit Program).

Mud Program:

<u>Interval</u>	<u>Wt. #/gal</u>	<u>Vis. Sec/qt.</u>	<u>WL</u>
Window Cut@ 4985' KB	8.4 to 8.7	*	NC
4985' to TD	* ¹ 8.9 to 9	*	NC

* 20 Bbl. polymer sweeps (≈ 100 vis) as required to clean hole.

*¹ Produced brine water will be utilized from the Knockdhu #2 (≈ 9.6 #/gal). Dilute brine back with fresh water to achieve desired mud weight. < 9 #/gal. optimum.

Core: None

DST: None

Mud Logging Unit:

Two man unit with QFT equipment from KOP of 4985' to TD.

Samples:

4985' to TD 10' intervals.

Logging:

Schlumberger GR-LDT-CNL (TLC) log ran on 2 7/8" drill pipe from 4985' to TD.

Minimum BOP and Accessory Control Equipment:

1. One 11" - 3000 psig annular preventor & one 11" - 3000 psig double ram blowout preventor with blind rams and one 2 7/8" drill pipe ram (above blind ram) will be installed and utilized prior to cutting window in 5 1/2" casing. A 3000 psig choke manifold will be utilized.
2. Blowout preventor or drilling spool will be equipped with 1-2" and 1-3" side outlet.
3. An accumulator rated at 3000 psig W.P. with a minimum of three (3) hydraulic control stations will be utilized. One for blind rams, one for pipe rams and one for the annular preventor. Remote controls will be located at the accumulator house at G.L. and on the floor. Manual controls (e.g. hand wheels) will be located at G.L. under the substructure. A valve shall be installed in the hydraulic closing line to serve as a locking device when the accumulator system is inoperative.
4. Pressure testing procedures and requirements:
Prior to cutting window in the 5 1/2" casing the 5 1/2" production casing (with CIBP set), BOP stack and associated equipment (i.e., choke manifold, lower and upper kelly cocks, valve, etc.) will be tested to 3000 psig for 15 min. Annular preventor will be tested to 1500 psig for 15 min. Certified BOP testing service company will be utilized for pressure testing. All pressure testing operations must be witnessed by Petral's well site representative (McIlnay & Associates, Inc.).
5. Drilling contractor will perform a daily operational check of all BOP equipment (e.g. includes associated equipment). Pipe and blind rams shall be activated each trip.

6. All BOP pressure testing and operational checks will be recorded in the daily "tour" report book.
7. A BOP and pit level drill will be conducted by the drilling contractor weekly and noted in the "tour" report book.
8. Twenty-four hours prior to pressure testing notify the BLM and Utah Division of Oil, Gas & Mining.

Every 30 days BOP and accessory equipment must be pressure tested to 2500 psig. Notify the BLM and Utah Division of Oil, Gas & Mining.

Drill Pipe Protectors:

Will not be required

Drilling Records:

1. Maintain 1' drilling time with Geolograph or equivalent.
2. Hook weight and pump pressure continuously recorded (minimum requirements).
3. Daily tour reports to be completed each tour. Record all pertinent information (i.e., mud checks, trips, BOP tests, repairs, down time, stuck drill pipe, on site injuries, etc.).

Abnormal Conditions or Potential Hazards:

None. Estimated BHT at TD is 120°F. Hydrogen sulfide gas is not anticipate.

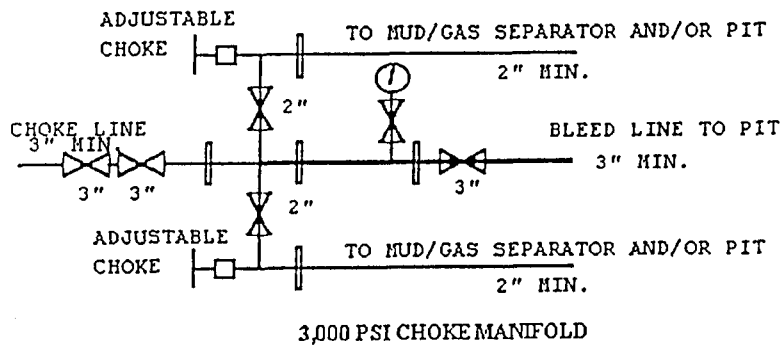
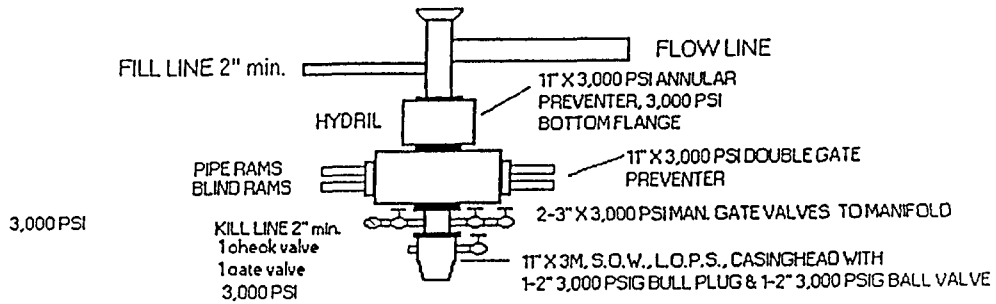
Anticipated Start Date:

≈ May 28, 1997.

Completion:

Completion will be open hole and an acid stimulation job of the lateral hole will be designed based on open hole log data. Rotary tools will be released and a completion rig will be utilized.

BOP EQUIPMENT
3,000 PSIG W.P.



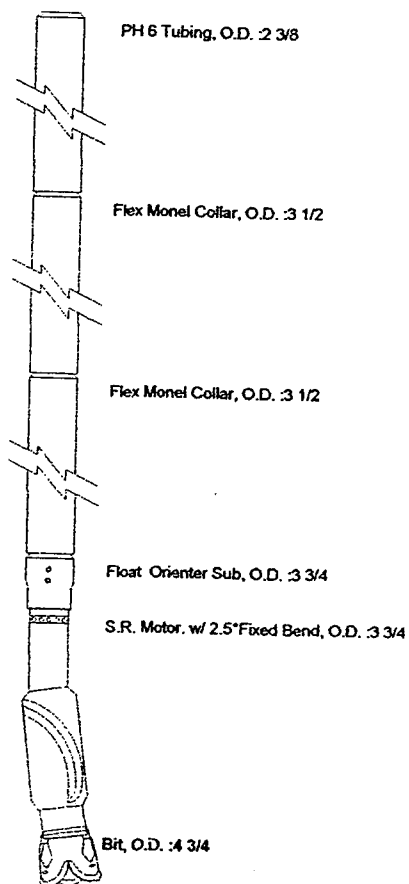


Well Information

ATTACHEMNT I

Company
Lease/Well
Location
Country
State

Petral Exploration LLC
#2 Knockando Unit
Section 19 T37S R25E
Utah

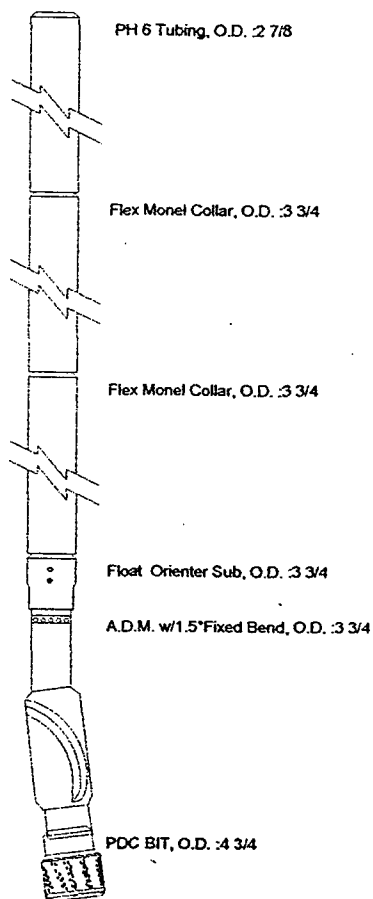




Company
Lease/Well
Location
Country
State

Petral Exploration LLC
#2 Knockando Unit
Section 19: T37S R25E
Utah

ATTACHMENT II



Company: Petral Exploraiton LLC
 Lease/Well: #2 Knockando Unit
 Location: Section 19: T37W R25E
 Rig Name:
 Declination:
 File name: C:\WINSERVE\97168.SVY

Date/Time: 07-Apr-97 / 14:51

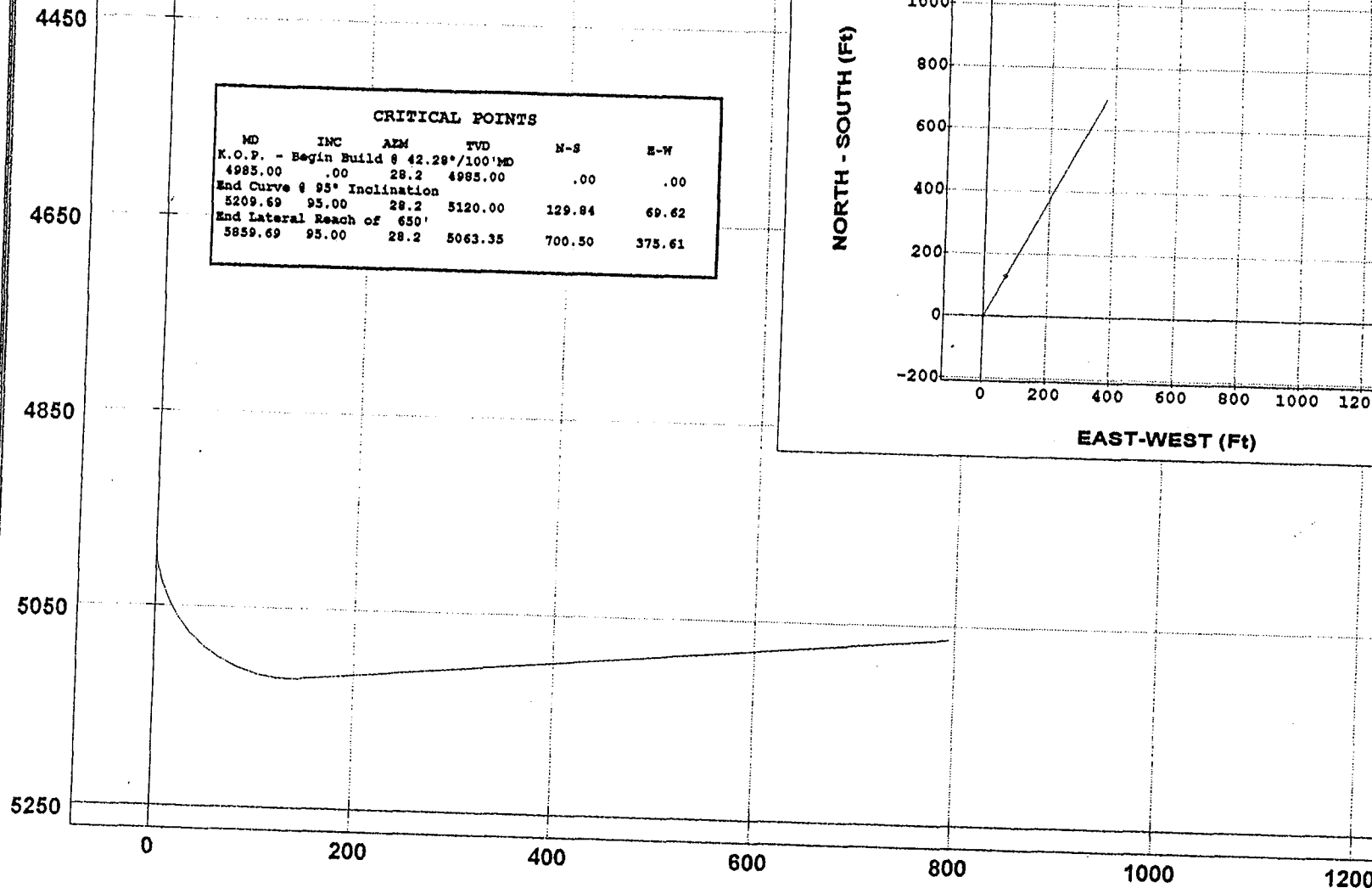
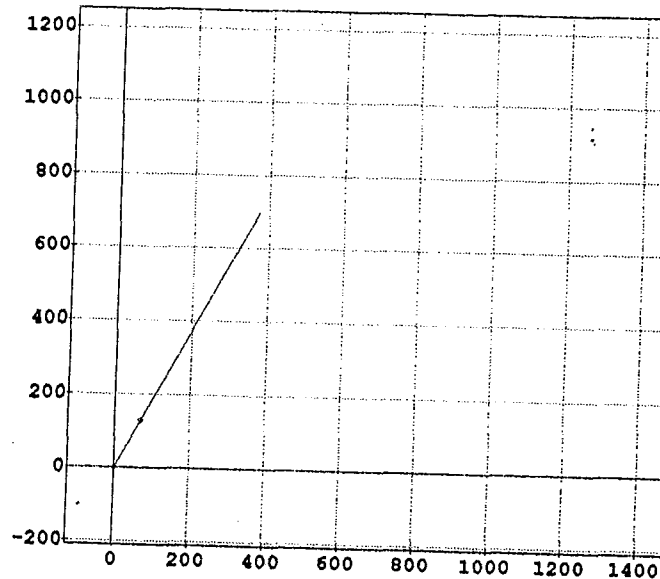
TRUE VERTICAL DEPTH (Ft)

NORTH - SOUTH (Ft)

EAST-WEST (Ft)

CRITICAL POINTS

MD	INC	AZM	TVD	N-S	E-W
K.O.P. - Begin Build @ 42.28°/100' MD					
4985.00	.00	28.2	4985.00	.00	.00
End Curve @ 95° Inclination					
5209.69	95.00	28.2	5120.00	129.84	69.62
End Lateral Reach of 650'					
5859.69	95.00	28.2	5063.35	700.50	375.61



-- #2 Knockando Unit --

VERTICAL SECTION (Ft) @ 28.20°



Job Number: P97168
 Company: Petral Exploraiton LLC
 Lease/Well: #2 Knockando Unit
 Location: Section 19: T37W R25E
 Rig Name:
 RKB:
 G.L. or M.S.L.:

State/Country: San Juan County, Texas
 Declination:
 Grid:
 File name: C:\WINSERVE\97168.SVY
 Date/Time: 08-Apr-97 / 08:23
 Curve Name: #2 Knockando Unit

PHOENIX DRILLING SERVICES, INC.

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method
 Vertical Section Plane 28.20

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
K.O.P. - Begin Build @ 42.28°/100'MD									
4985.00	.00	28.20	4985.00	.00	.00	.00	.00	.00	.00
5005.00	8.46	28.20	5004.93	1.30	.70	1.47	1.47	28.20	42.28
5025.00	16.91	28.20	5024.42	5.17	2.77	5.86	5.86	28.20	42.28
5045.00	25.37	28.20	5043.06	11.52	6.17	13.07	13.07	28.20	42.28
5065.00	33.82	28.20	5060.43	20.21	10.84	22.94	22.94	28.20	42.28
5085.00	42.28	28.20	5076.17	31.07	16.66	35.25	35.25	28.20	42.28
5105.00	50.74	28.20	5089.92	43.84	23.51	49.75	49.75	28.20	42.28
5125.00	59.19	28.20	5101.39	58.26	31.24	66.11	66.11	28.20	42.28
5145.00	67.65	28.20	5110.33	74.01	39.68	83.98	83.98	28.20	42.28
5165.00	76.10	28.20	5116.55	90.75	48.66	102.97	102.97	28.20	42.28
5185.00	84.56	28.20	5119.91	108.11	57.97	122.67	122.67	28.20	42.28

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
5205.00	93.02	28.20	5120.33	125.71	67.41	142.64			
5209.66	94.98	28.20	5120.00	129.81	69.60	147.29	142.64	28.20	42.28
End Curve @ 95° Inclination									
5209.69	95.00	28.20	5120.00	129.84	69.62	147.33	147.29	28.20	42.28
End Lateral Reach of 650'									
5859.69	95.00	28.20	5063.35	700.50	375.61	794.85	794.85	28.20	.00

Prepared for

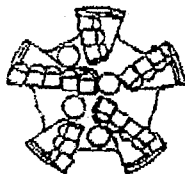
**PETRAL EXPLORATION
KNOCKANDO #2**

in

SAN JUAN CO., UTAH

**RECOMMENDED
DRILL BIT PROGRAM**

 **HUGHES** 
CHRISTENSEN





BITS and DAYS ESTIMATE

Prepared for

PETRAL EXPLORATION

for Well

KNOCKANDO #2

in

SAN JUAN CO., UTAH

Proposed Hole and Casing Program

Hole Size(in)	Casing Size(in)	Depth(ft)
4-3/4		5,868

ESTIMATED BITS and COST

Quantity	Size(in)	Bit Type	Cost Each(\$)	Total Cost(\$)	Accumulated Cost(\$)
2	4-3/4	STR-30	\$5,300	\$10,600	\$10,600

SUMMARY

Total Number of Bits	2
Total Bit Cost	\$10,600
Total Drilling Hours	46.0
Total Days from Spud to TD	3.5
Total Casing Setting Days	.



RECOMMENDED BIT PROGRAM

GEOGRAPHIC LOCATION SAN JUAN CO., UTAH	OPERATOR PETRAL EXPLORATION	CONTRACTOR / RIG	SALES REPRESENTATIVE GARY VICK
FIELD / AREA	LOCATION / WELL NUMBER KNOCKANDO #2		

No.	SIZE (in)	BIT TYPE	DEPTH OUT (ft)	DIST DRLD (ft)	DRLG TIME (hrs)	ROP (ft/hr)	ACC TIME (hrs)	WOB (klb)	RPM	MWD WT (ppg)	DAYS	REMARKS
-----	--------------	-------------	----------------------	----------------------	-----------------------	----------------	----------------------	--------------	-----	--------------------	------	---------

RE-ENTRY @ 5000'

BUILD APPROXIMATELY 45 DEGREES PER 100 FEET TO HORIZONTAL

1	4-3/4	STR-30	5199	199	14.0	14.2	14.0	2 10	240 260		1.1	TVD=5120'
2	4-3/4	STR-30	5868	669	32.0	20.9	46.0	10 15	240 260		3.5	



GEOGRAPHIC LOCATION SAN JUAN CO., UTAH	OPERATOR PETRAL EXPLORATION	CONTRACTOR / REF	SALES REPRESENTATIVE GARY VICK
FIELD / AREA	LOCATION / WELL NUMBER KNOCKANDO #2	OPERATING COSTS (\$ / hr) (\$ / day) 400 9,600	ROUND TRIP RATE 1 (hr / 1000 ft)

[illegible]

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 05/07/97

API NO. ASSIGNED: 43-037-31780

WELL NAME: KNOCKANDO UNIT #2
OPERATOR: PETRAL EXPLORATION (N7700)

PROPOSED LOCATION:
NESW 1619 T37S - R25E
SURFACE: 2018-FSL-1388-FWL
BOTTOM: 2718-FLS-1764-FWL
SAN JUAN COUNTY
WILDCAT FIELD (001)

LEASE TYPE: FED
LEASE NUMBER: UTU - 75897

PROPOSED PRODUCING FORMATION: ISMY

INSPECT LOCATION BY: / /

TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

☐ Plat
☐ Bond: Federal[] State[] Fee[]
(Number _____)
☐ Potash (Y/N)
☐ Oil shale (Y/N)
☐ Water permit
(Number _____)
☐ RDCC Review (Y/N)
(Date: _____)

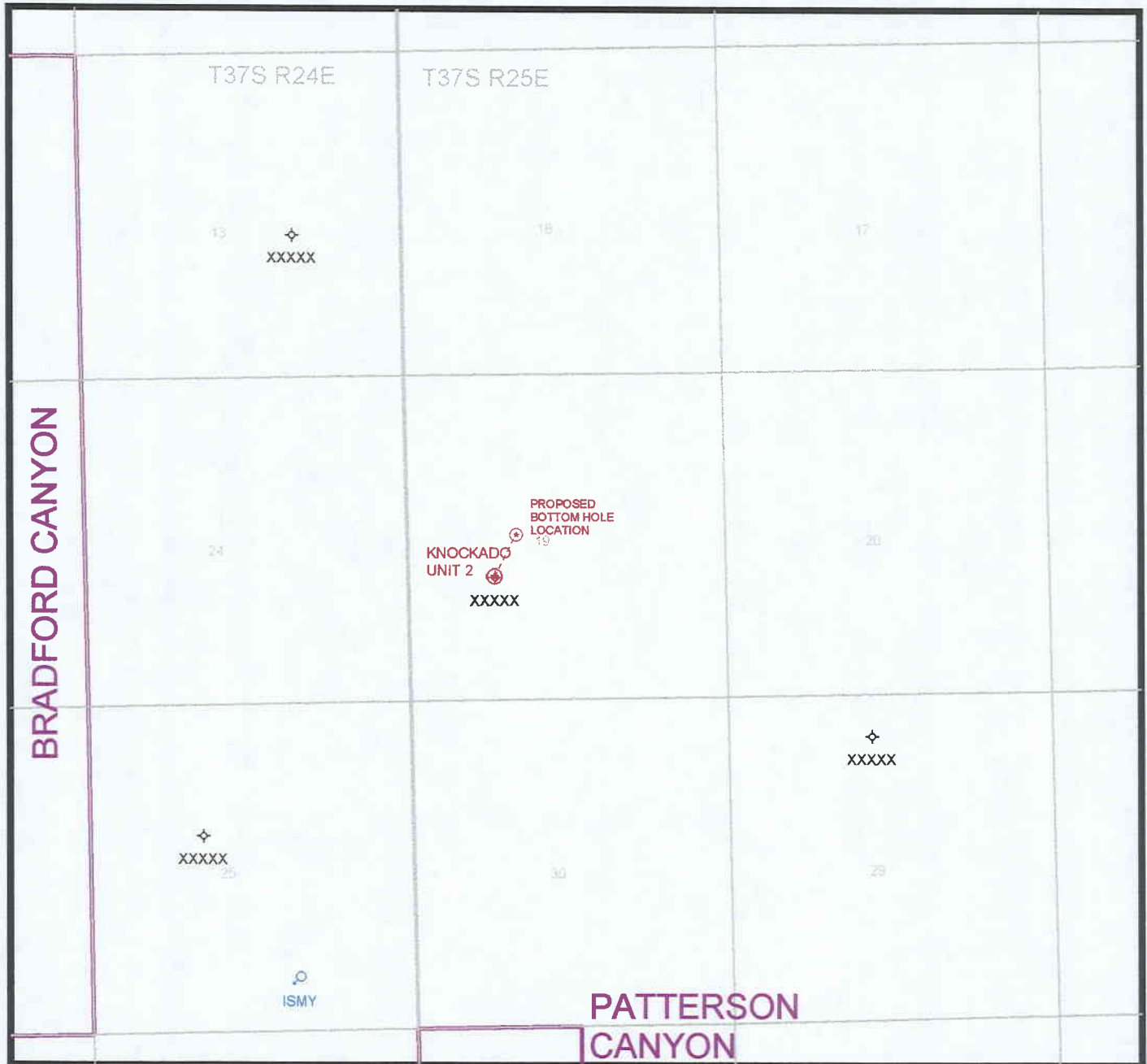
LOCATION AND SITING:

☐ R649-2-3. Unit: _____
☐ R649-3-2. General.
☐ R649-3-3. Exception.
☐ Drilling Unit.
Board Cause no: _____
Date: _____

COMMENTS: SEE PREVIOUS APPROVAL

STIPULATIONS: 1. If the well is completed for production,
the operator shall obtain production history and reservoir
information as necessary to propose an appropriately sized
drilling unit for the horizontal interval. The operator shall
furthermore obtain approval of a horizontal drilling unit
for this well and any additional horizontal wells by order of the
Board of Oil, Gas and Mining after appropriate notice and hearing.
The operator shall take such actions within one year of
completing the well for production.
2. Directional drilling stipulation.

OPERATOR: PETRAL EXPL. (N7700)
FIELD: WILDCAT (001)
SEC, TWP, RNG: 19, T37S, R25E
COUNTY: SAN JUAN
UAC: R6492-3 KNOCKANDO UNIT



PREPARED:
DATE: 8-MAY-97

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018⁶¹⁶ FSL & 1388⁴²³ FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
Prop. BHL - 2718' FSL & 1764' FWL, Sec. 19-T37S-R25E (SW SE NW)
528 538

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Sidetrack & Drill Laterals
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Request is made for all information to be held CONFIDENTIAL

The well was spudded 9/30/96. 5½" casing was cemented into place @ 5443.70' KB and a completion of the Upper Ismay Mound reservoir was attempted. The completion was not successful due to encountering excessive water production. Approval to temporarily shut-in the well for evaluation was granted by the BLM 1/8/97.

It is proposed to cut a window in the 5½" casing at 4985' KB and drill a lateral hole approximately 650' updip in a NE direction (azimuth of 28.2°). The lateral will be kept above the oil/water contact of 5162' (-128 sub-sea). No additional surface disturbance will be required. The access road, well pad and reserve pit used for the initial drilling operations will be utilized for the proposed sidetracking operation. The Conditions of Approval and Stipulations set forth by the APD/NTL-6 approved by the BLM 9/26/96 will be followed for the sidetracking and lateral drilling operations.

For details see the proposed prognosis.

CONFIDENTIAL

14. I hereby certify that the foregoing is true and correct

Signed *David W. McIlnay*

McIlnay & Associates, Inc.
Title Consulting Engineers

Date May 6, 1997

(This space for Federal or State office use)

Approved by *John R. Baye*
Conditions of approval, if any:

Title Petroleum Engineer

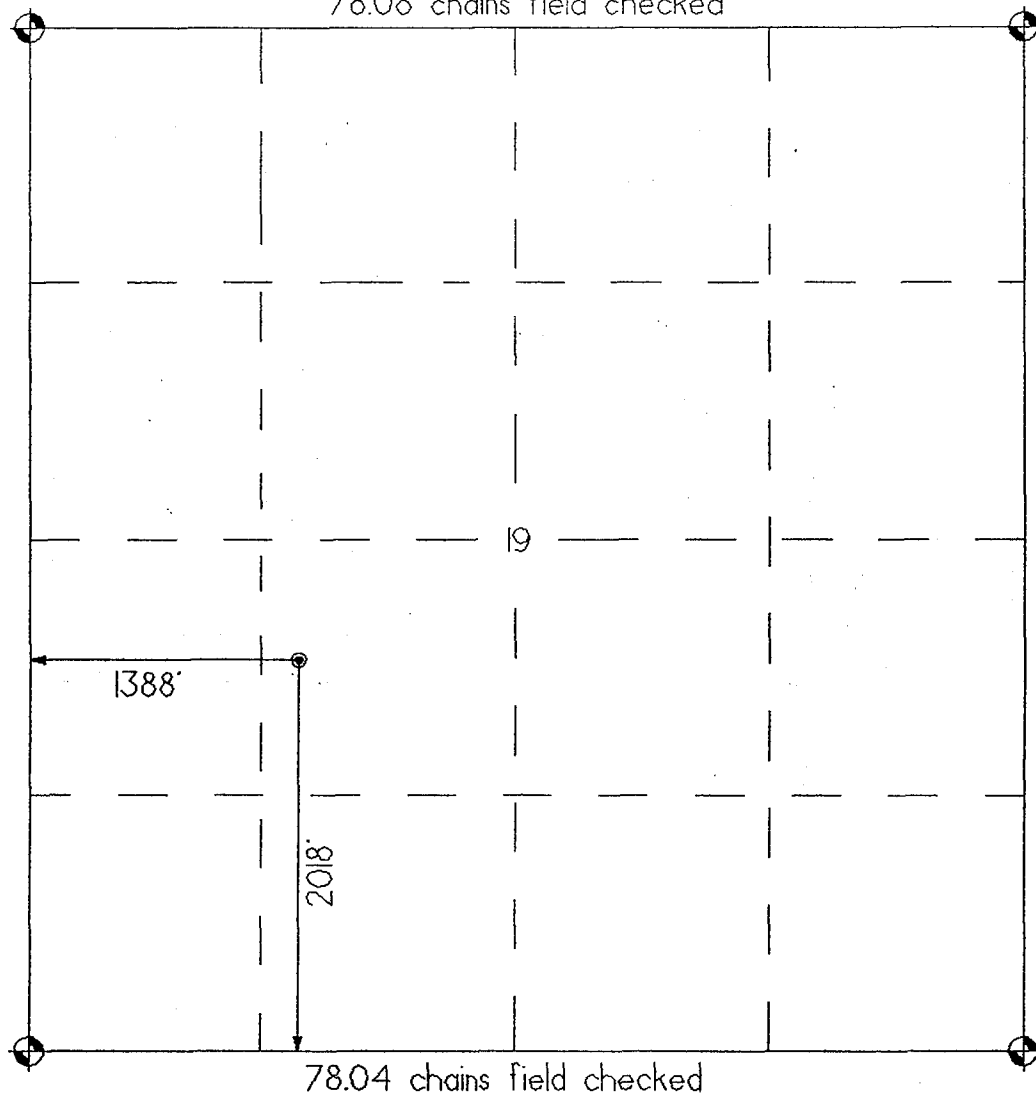
Date 6/10/97

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side


Well Location Plat


78.08 chains field checked



NORTH

0' 1000'
1" = 1000'

 brass cap

 stone

Well Location Description

PETRAL EXPLORATION

2 Knockando Unit

2018' FSL & 1388' FWL

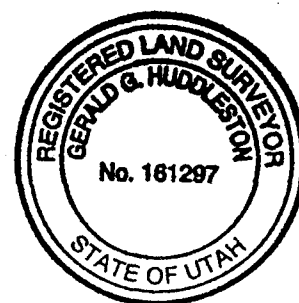
Section 19, T.37 S., R.25 E., SLM

San Juan County, UT

5022' grd. el.

State plane coordinates from GPS survey:

331.230 North & 2.661.689 East



24 August 1996

Gerald G. Huddleston

Gerald G. Huddleston, LS

The above is true and correct to my knowledge and belief.

HUDDLESTON LAND SURVEYING - BOX KK - CORTEZ, CO - (970) 565 -3330

facsimile
TRANSMITTAL

To: Mr. Mike Hebertson
Of: Utah Division of Oil, Gas & Mining
Fax: (801) 359-3920
Pages: 3, including this cover sheet.
Date: June 3, 1997

Mike:

Attached is a copy of the approval on the sidetrack for the Knockando #2 well from the B.I.M.
We should be ready to start later this week. Please let me know if you need anything further.

Sharon

From the desk of

McIlnay & Associates
2305 Oxford Lane
Casper, WY 82604
(307) 265-4351
Fax: (307) 473-1218

Form 3160-5
June 1990)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well:

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
Prop. BHL - 2718' FSL & 1764' FWL, Sec. 19-T37S-R25E (SW SE NW)FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.

UTU-875897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

2. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒
- Notice of Intent
-
- ☐
- Subsequent Report
-
- ☐
- Final Abandonment Notice

TYPE OF ACTION

- ☐
- Abandonment
-
- ☐
- Recompletion
-
- ☐
- Plugging Back
-
- ☐
- Casing Repair
-
- ☐
- Altering Casing
-
- ☒
- Other Sidetrack & Drill Lateral
-
- ☐
- Change of Plans
-
- ☐
- New Construction
-
- ☐
- Non-Routine Fracturing
-
- ☐
- Water Shut-Off
-
- ☐
- Conversion to Injection
-
- ☐
- Dispose Water

(N/A: Report results of multiple completion or well completion or recompletion report and log form.)

3. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

request is made for all information to be held CONFIDENTIAL

The well was spudded 9/30/96. 5 1/2" casing was cemented into place @ 5443.70' KB and a completion of the Upper Ismay Mound reservoir was attempted. The completion was not successful due to encountering excessive water production. Approval to temporarily shut-in the well for evaluation was granted by the BLM 1/8/97.

It is proposed to cut a window in the 5 1/2" casing at 4985' KB and drill a lateral hole approximately 650' updip in a NE direction (azimuth of 28.2°). The lateral will be kept above the oil/water contact of 5162' (-128 sub-sea). No additional surface disturbance will be required. The access road, well pad and reserve pit used for the initial drilling operations will be utilized for the proposed sidetracking operation. The Conditions of Approval and Stipulations set forth by the APD/NTL-6 approved by the BLM 9/26/96 will be followed for the sidetracking and lateral drilling operations.

For details see the proposed prognosis.

4. I hereby certify that the foregoing is true and correct

Signed

McIlnay & Associates, Inc.

Title Consulting Engineers

Date May 6, 1997

(This space for Federal or State office use)

Approved by

Title

Assistant Field Manager,
Resource Management

Date 5/27/97

Conditions of approval, if any:

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See instruction on Reverse Side

Petral Exploration, LLC
Well No. Knockando #2
NESE Sec. 19, T. 37 S., R. 25 E.
San Juan County, Utah
Lease UTU75897

CONDITIONS OF APPROVAL

1. All of the conditions of the original APD approval remain in effect.
2. The waterflow emanating from somewhere between 3544' (top of cement behind the 5 1/2" casing) and 2510' (surface casing shoe) must be squeeze cemented. This may be done after completion of the horizontal leg, but before production commences.

FIELD REPORT

TYPE OF SERVICE
HPR-DST

DATE
19-OCT-1996

DISTRICT
VERNAL

Page
1 of 2

WELL OWNER: PETRAL EXPLORATION

SERVICE ORDER NUMBER: 142662

REPORTS ADDRESS:

WELL NAME & NO.: KNOCKANDO #2

FIELD: W/C

LEASE:

LOCATION: 1937S25E

COUNTY: SAN JUAN

STATE: UTAH

TEST NO. TWO

TEST INTERVAL FROM 5095 FT TO 5170 FT = 75 FT

SURFACE DATA

EQUIPMENT SEQUENCE

[illegible]

RECOVERY DESCRIPTION	FEET	BBLs	OIL GRAVITY	RESISTIVITY	CHLORIDES	
GAS IN PIPE	180					
HEAVY GAS						
CUT MUD	300					
HEAVY OIL &						
GAS CUT MUD	270					

SERVICE ORDER NUMBER:

142662

SCHLUMBERGER ENGINEER/TECHNICIAN

MIKE McCURDY

Schlumberger

FIELD REPORT

TYPE OF SERVICE
HPR-DSTDATE
19-OCT-1996DISTRICT
VERNALPage
2 of 2

INSTRUMENT DATA

INSTRUMENT NO.	9060	J-1238	J-2051		
CAPACITY (PSIG)	20000	4700	6400		
DEPTH	5063	5120	5190		
INSIDE-OUTSIDE	IN	IN	OUT		
CLOCK CAP	ELECTRONIC	48-HR	48-HR		
TEMPERATURE °F					
I. HYD. PSIG					
I. FLOW PSIG					
I.S.I. PSIG					
2nd FLOW PSIG					
2nd S.I. PSIG					
F. FLOW PSIG					
F.S.I. PSIG					
F. HYD. PSIG					

MUD DATA

MUD TYPE	GEL-CHEM	MUD WT	10.3	#/gal
VISCOSITY	51	WATER LOSS		CC
RESISTIVITY: OF MUD	@	°F		
RESISTIVITY: OF FILTRATE	0.457 @ 70	°F		
CHLORIDES	13800	PPM		
H2S DURING TEST		PPM		

WELL BORE DATA

FORMATION TESTED	ISMAY			
NET PRODUCTIVE INTERVAL	75	ft	EST. POROSITY	7.5 %
ELEVATION		ft	DEPTH MEASURED FROM KB	
TOTAL MEASURED DEPTH				ft
O H SIZE	7.875	in		
CASING SIZE				
LINER SIZE				
PERF INTERVAL FROM		ft	TO	ft
SHOT DENSITY				

CUSHION	LENGTH	AMOUNT	SURFACE PRESS	BOTTOM CHOKE SIZE
NONE				0.94

SAMPLER DATA

RECOVERY			RESISTIVITY			CHLORIDES	
GAS	.253	C.F.	RECOVERED WATER	@	deg F	PPM	
OIL	150	C.C.	RECOVERED MUD	@	deg F		
WATER		C.C.	REC.MUD FILTRATE 0.124 @ 70	deg F		58000	PPM
MUD	230	C.C.	PIT MUD	@	deg F		
GRAVITY 45 °API 64 °F			PIT MUD FILTRATE 0.124 @ 70	deg F		58000	PPM
GOR 267		C.F./BBL	SAMPLER PRESSURE 180 psig				

REMARKS: RECOVERY WAS A TOTAL OF 5.5 BBLs.

SERVICE ORDER NUMBER:

142662

SCHLUMBERGER ENGINEER/TECHNICIAN

MIKE McCURDY

REPORT NO.

142662

PAGE NO. 1

TEST DATE:

19-OCT-1996

S T A R

Schlumberger Testing Data Report

Pressure Data Report

Schlumberger

COMPANY: PETRAL EXPLORATION

WELL: KNOCKANDO #2

TEST IDENTIFICATION

Test Type HPR-DST
 Test No. TWO
 Formation ISMAY
 Test Interval (ft) 5095 to 5170
 Depth Reference KB

WELL LOCATION

Field W/C
 County SAN JUAN
 State UTAH
 Sec/Twn/Rng 1937S25E
 Elevation (ft)

HOLE CONDITIONS

Total Depth (MD/TVD) (ft)
 Hole Size (in) 7.875
 Casing/Liner I.D. (in)
 Perf'd Interval/Net Pay (ft) .. / 75
 Shot Density/Diameter (in) ...

MUD PROPERTIES

Mud Type GEL-CHEM
 Mud Weight (lb/gal) 10.3
 Mud Resistivity (ohm.m)
 Filtrate Resistivity (ohm.m) .. 0.457 @ 70F
 Filtrate Chlorides (ppm) 13800

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi) 2845.87
 Gas Cushion Type
 Surface Pressure (psi)
 Liquid Cushion Type
 Cushion Length (ft)

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in) ... 0 /
 Collar Length (ft)/I.D. (in) .. 0 /
 Packer Depths (ft)
 Bottomhole Choke Size (in) ... 0.94
 Gauge Depth (ft)/Type 5063/9060

NET PIPE RECOVERY

Volume	Fluid Type	Properties
180 ft	GAS IN PIPE	
	HEAVY GAS	
300 ft	CUT MUD	
	HEAVY OIL &	
270 ft	GAS CUT MUD	

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
.253 cuft	Gas	
150 cc	Oil	API 45@64F
230 cc	Mud	Rw 0.124@70F 58000p
Pressure:180 GOR:268 GLR:106		

INTERPRETATION RESULTS

Model of Behavior
 Fluid Type Used for Analysis..
 Reservoir Pressure (psi)
 Transmissibility (md.ft/cp) ..
 Effective Permeability (md) ..
 Skin Factor/Damage Ratio
 Storativity Ratio, Omega
 Interporos.Flow Coef.,Lambda..
 Distance to an Anomaly (ft) ..
 Radius of Investigation (ft)..
 Potentiometric Surface (ft) ..

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API)
 Basic Solids (%)
 Gas Gravity
 GOR (scf/STB)
 Water Cut (%)
 Viscosity (cp)
 Total Compressibility (1/psi)..
 Porosity (%) 7.5
 Reservoir Temperature (F)
 Form.Vol.Factor (bbl/STB)

PRODUCTION RATE DURING TEST: Data Report

COMMENTS:

RECOVERY WAS A TOTAL OF 5.5 BBLs.

WELL TEST INTERPRETATION REPORT #:142662		PAGE: 2,
CLIENT : PETRAL EXPLORATION		21-OCT-96
REGION :WSD	SEQUENCE OF EVENTS	FIELD:W/C
DISTRICT:VERNAL		ZONE :ISMAY
BASE :DENVER		WELL :KNOCKANDO #2
ENGINEER:MIKE McCURDY		LOCATION:1937S25E

DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
=====					
19-OCT	12:04	HYDROSTATIC MUD-SET PACKER	-2	2846	
	12:06	START FLOW	0	97	
	12:15	1.75 LB	9		
	13:05	3.25 LB	59		
	14:05	4.75 LB	119		
	15:05	7.00 LB	179		
	16:05	8.25 LB	239		
	16:21	GAS TO SURFACE	255		
	16:25	8.50 LB	259		
	16:45	7.50 LB	279		
	17:05	7.00 LB	299		
	18:05	5.25 LB	359		
	19:05	4.75 LB	419		
	20:45	4.50 LB	519		
	20:04	END FLOW & START SHUT-IN	478	259	
20-OCT	12:22	END SHUT-IN	1456	2313	
	12:28	HYDROSTATIC MUD	1462	2731	

BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 142662

COMPANY : PETRAL EXPLORATION

INSTRUMENT NO. HPR-C9060

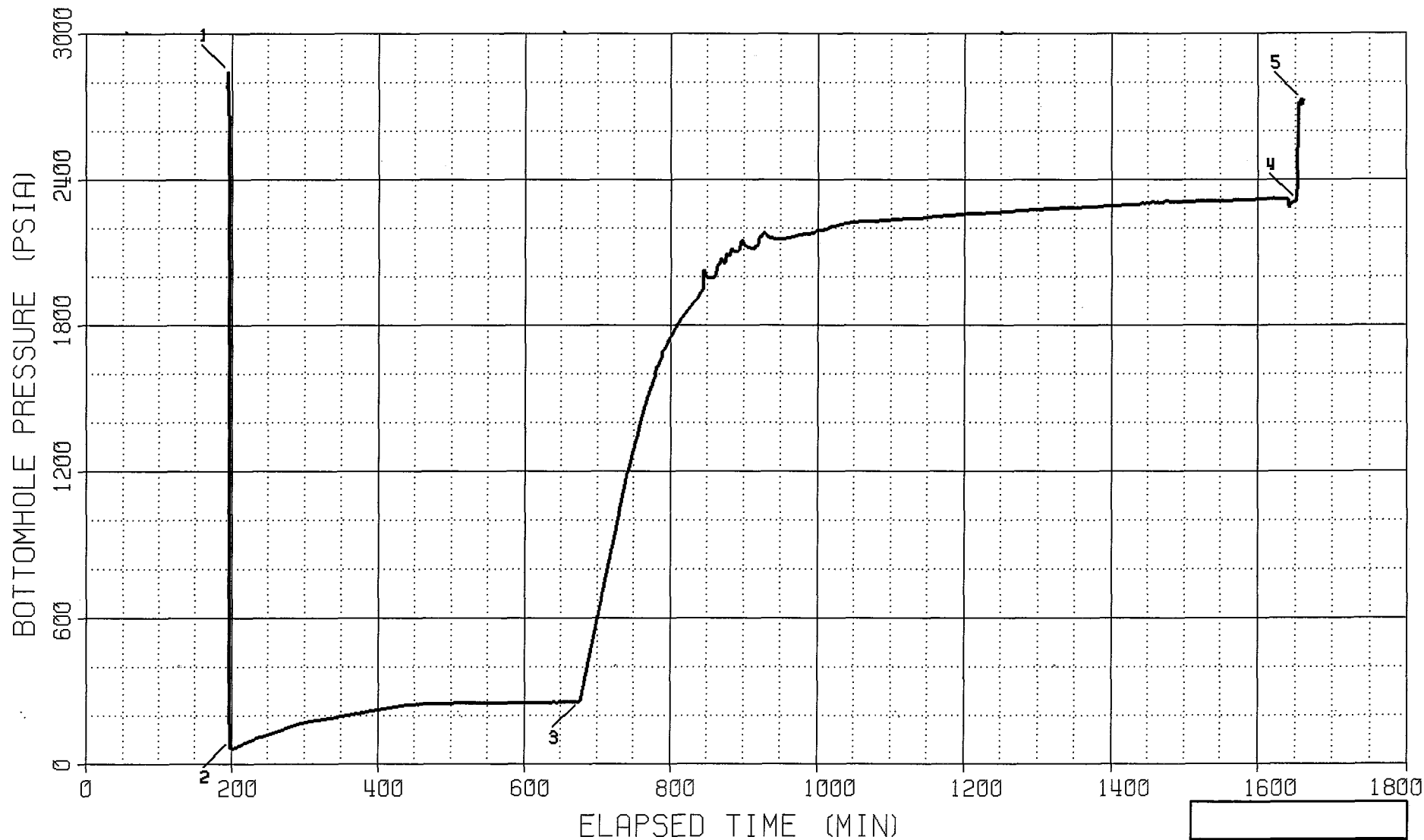
WELL : KNOCKANDO #2

DEPTH : 5063 FT

CAPACITY : 20000 PSI

Electronic Pressure Data

PORT OPENING : OUTSIDE



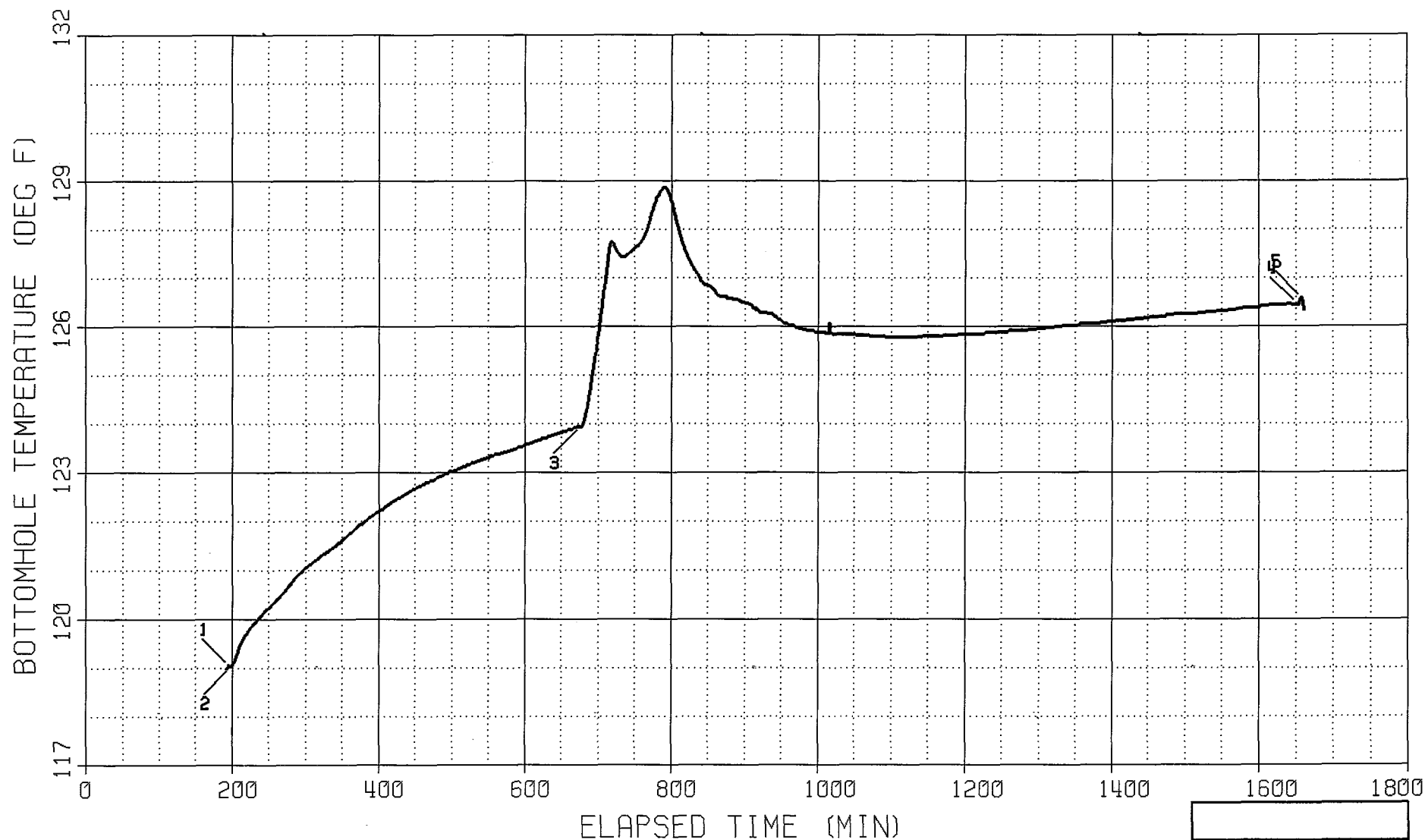
Schlumberger

BOTTOMHOLE TEMPERATURE LOG

FIELD REPORT NO. 142662
INSTRUMENT NO. HPR-C9060
DEPTH : 5063 FT

COMPANY : PETRAL EXPLORATION
WELL : KNOCKANDO #2

Electronic Temperature Data



Schlumberger

LOG LOG PLOT

COMPANY : PETRAL EXPLORATION

WELL : KNOCKANDO #2

FIELD REPORT NO. 142662

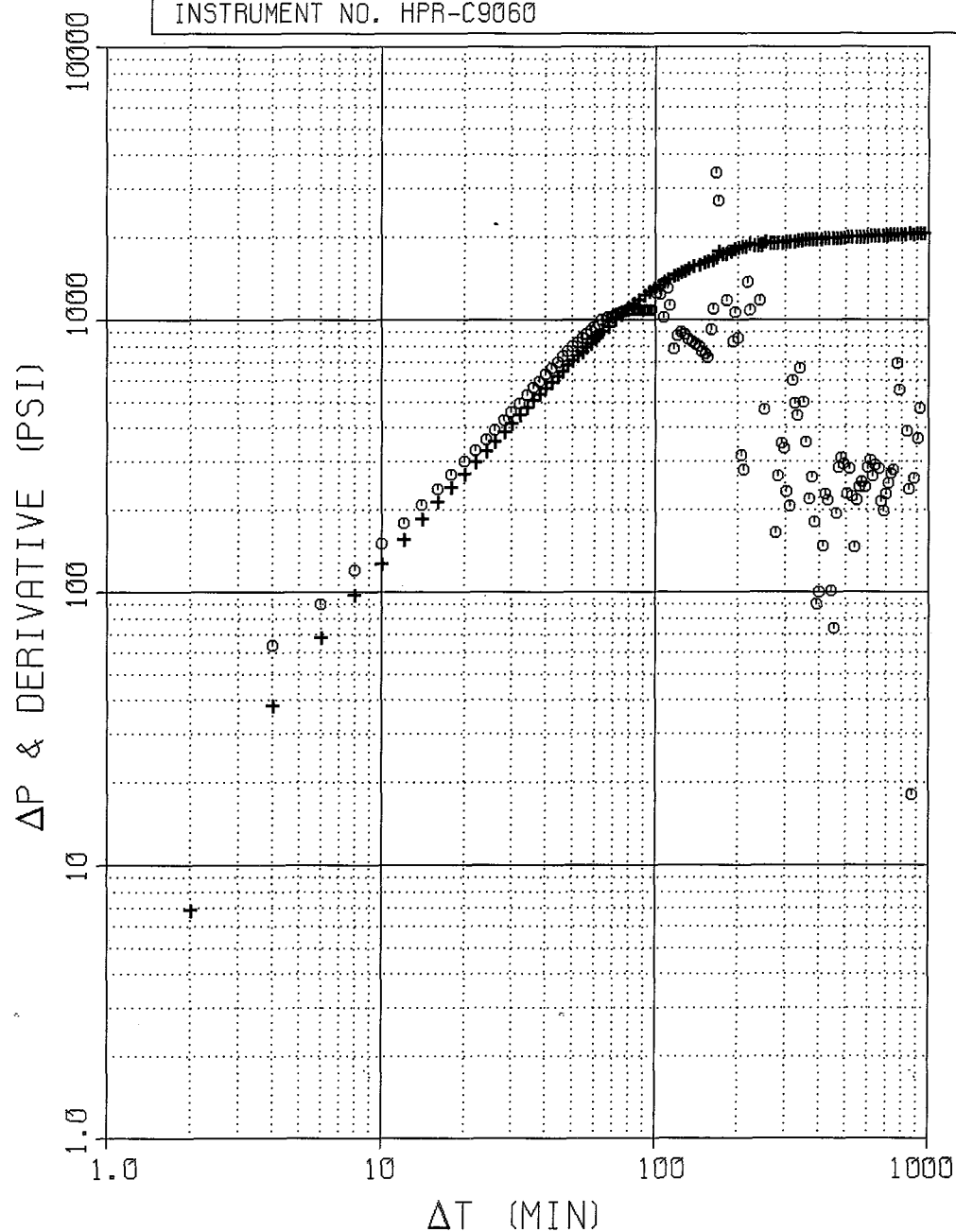
INSTRUMENT NO. HPR-C9060

SHUTIN #1 : PRODUCING TIME (T_p) : 478.0 MIN

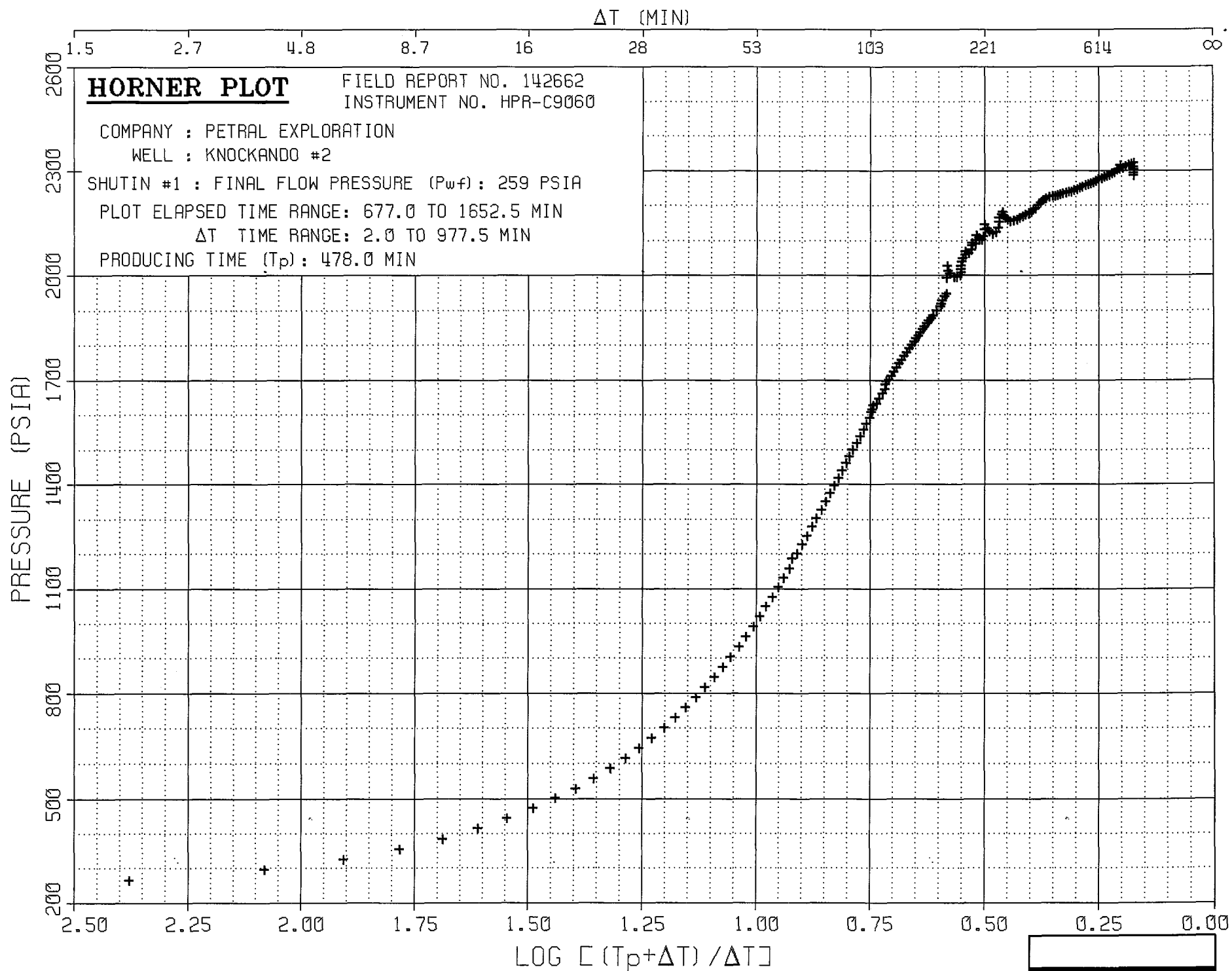
FINAL FLOW PRESSURE (P_{wf}) : 259 PSIA

PLOT ELAPSED TIME RANGE: 677.0 TO 1652.5 MIN

ΔT TIME RANGE: 2.0 TO 977.5 MIN



Schlumberger



 ** WELL TEST DATA PRINTOUT **

COMPANY: PETRAL EXPLORATION
 WELL: KNOCKANDO #2

FIELD REPORT NO. 142662
 INSTRUMENT NO. HPR-C9060

RECORDER CAPACITY: 20000 PSI PORT OPENING: OUTSIDE DEPTH: 5063 FT

LABEL POINT INFORMATION

#	TIME OF DAY HH:MM:SS	DATE DD-MMM	EXPLANATION	ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA	BOT HOLE TEMP. DEG F
1	12:04:35	19-OCT	HYDROSTATIC MUD	195.03	2845.87	119.05
2	12:06:35	19-OCT	START FLOW	197.03	96.59	119.03
3	20:04:35	19-OCT	END FLOW & START SHUT-IN	675.03	258.55	123.94
4	12:22:05	20-OCT	END SHUT-IN	1652.53	2312.71	126.45
5	12:28:05	20-OCT	HYDROSTATIC MUD	1658.53	2730.94	126.57

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	INITIAL PRESSURE PSIA
1	197.03	675.03	478.00	96.59	258.55	96.59

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	675.03	1652.53	977.50	258.55	2312.71	258.55	478.00

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
12:06:35	19-OCT	197.03	0.00	119.03	96.59
12:23:05	19-OCT	213.53	16.50	119.57	80.41
12:39:05	19-OCT	229.53	32.50	119.91	101.66
12:55:05	19-OCT	245.53	48.50	120.20	117.39
13:11:05	19-OCT	261.53	64.50	120.42	132.58
13:27:05	19-OCT	277.53	80.50	120.69	150.77
13:43:05	19-OCT	293.53	96.50	120.96	166.26
13:59:05	19-OCT	309.53	112.50	121.17	176.45
14:15:35	19-OCT	326.03	129.00	121.35	184.43
14:31:35	19-OCT	342.03	145.00	121.53	192.05
14:47:35	19-OCT	358.03	161.00	121.73	200.83
15:03:35	19-OCT	374.03	177.00	121.93	209.96
15:19:35	19-OCT	390.03	193.00	122.11	219.18
15:35:35	19-OCT	406.03	209.00	122.27	227.54
15:51:35	19-OCT	422.03	225.00	122.43	235.82
16:07:35	19-OCT	438.03	241.00	122.58	242.60
16:23:35	19-OCT	454.03	257.00	122.72	245.99
16:39:35	19-OCT	470.03	273.00	122.83	246.71
16:55:35	19-OCT	486.03	289.00	122.94	249.16
17:11:35	19-OCT	502.03	305.00	123.04	249.85
17:27:35	19-OCT	518.03	321.00	123.13	250.24
17:43:35	19-OCT	534.03	337.00	123.24	251.75
17:59:35	19-OCT	550.03	353.00	123.31	252.01
18:15:35	19-OCT	566.03	369.00	123.40	251.08
18:31:35	19-OCT	582.03	385.00	123.46	251.23
18:47:35	19-OCT	598.03	401.00	123.55	251.21
19:02:35	19-OCT	613.03	416.00	123.64	251.76
19:18:35	19-OCT	629.03	432.00	123.71	252.14
19:33:35	19-OCT	644.03	447.00	123.80	253.95
19:49:35	19-OCT	660.03	463.00	123.87	254.74
20:04:35	19-OCT	675.03	478.00	123.94	258.55

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 258.55 PSIA

PRODUCING TIME = 478.00 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
20:04:35	19-OCT	675.03	0.00	123.94	258.55	0.00	
20:06:35	19-OCT	677.03	2.00	123.94	265.38	6.83	2.3802
20:08:35	19-OCT	679.03	4.00	123.98	296.50	37.95	2.0810
20:10:35	19-OCT	681.03	6.00	124.05	326.14	67.59	1.9067
20:12:35	19-OCT	683.03	8.00	124.18	355.11	96.56	1.7835
20:14:35	19-OCT	685.03	10.00	124.34	384.26	125.71	1.6884
20:16:35	19-OCT	687.03	12.00	124.54	413.38	154.83	1.6110
20:18:35	19-OCT	689.03	14.00	124.74	442.29	183.74	1.5458
20:20:35	19-OCT	691.03	16.00	124.95	471.17	212.62	1.4896
20:22:35	19-OCT	693.03	18.00	125.17	500.01	241.46	1.4402
20:24:35	19-OCT	695.03	20.00	125.35	528.84	270.29	1.3962
20:26:35	19-OCT	697.03	22.00	125.53	557.56	299.01	1.3565

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 258.55 PSIA
PRODUCING TIME = 478.00 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
20:28:35	19-OCT	699.03	24.00	125.73	586.15	327.60	1.3205
20:30:35	19-OCT	701.03	26.00	125.94	614.80	356.25	1.2875
20:32:35	19-OCT	703.03	28.00	126.18	643.48	384.93	1.2570
20:34:35	19-OCT	705.03	30.00	126.43	672.23	413.68	1.2287
20:40:35	19-OCT	711.03	36.00	127.17	758.93	500.38	1.1547
20:46:35	19-OCT	717.03	42.00	127.74	845.91	587.36	1.0928
20:52:35	19-OCT	723.03	48.00	127.62	932.87	674.32	1.0397
20:58:35	19-OCT	729.03	54.00	127.47	1018.75	760.20	0.9935
21:04:35	19-OCT	735.03	60.00	127.45	1103.10	844.55	0.9526
21:09:35	19-OCT	740.03	65.00	127.49	1184.41	925.86	0.9219
21:15:35	19-OCT	746.03	71.00	127.56	1251.47	992.92	0.8883
21:21:35	19-OCT	752.03	77.00	127.65	1325.51	1066.96	0.8578
21:27:35	19-OCT	758.03	83.00	127.74	1394.95	1136.40	0.8299
21:33:35	19-OCT	764.03	89.00	127.90	1459.25	1200.70	0.8042
21:39:35	19-OCT	770.03	95.00	128.19	1518.47	1259.92	0.7804
21:45:35	19-OCT	776.03	101.00	128.52	1573.22	1314.67	0.7584
21:51:35	19-OCT	782.03	107.00	128.70	1632.29	1373.74	0.7378
21:57:35	19-OCT	788.03	113.00	128.84	1673.02	1414.47	0.7185
22:02:35	19-OCT	793.03	118.00	128.84	1710.56	1452.01	0.7034
22:08:35	19-OCT	799.03	124.00	128.62	1746.16	1487.61	0.6862
22:14:35	19-OCT	805.03	130.00	128.26	1779.16	1520.61	0.6700
22:20:35	19-OCT	811.03	136.00	127.92	1809.07	1550.52	0.6546
22:26:35	19-OCT	817.03	142.00	127.63	1836.40	1577.85	0.6401
22:32:35	19-OCT	823.03	148.00	127.40	1861.47	1602.92	0.6263
22:38:35	19-OCT	829.03	154.00	127.22	1884.10	1625.55	0.6132
22:44:35	19-OCT	835.03	160.00	127.08	1904.91	1646.36	0.6007
22:50:05	19-OCT	840.53	165.50	126.93	1931.37	1672.82	0.5898
22:55:05	19-OCT	845.53	170.50	126.86	2027.17	1768.62	0.5802
23:00:05	19-OCT	850.53	175.50	126.84	1997.88	1739.33	0.5710
23:06:05	19-OCT	856.53	181.50	126.75	1995.56	1737.01	0.5603
23:21:35	19-OCT	872.03	197.00	126.61	2061.72	1803.17	0.5348
23:36:35	19-OCT	887.03	212.00	126.55	2105.06	1846.51	0.5125
23:53:05	19-OCT	903.53	228.50	126.48	2125.59	1867.04	0.4902
0:08:05	20-OCT	918.53	243.50	126.30	2126.06	1867.51	0.4717
0:23:35	20-OCT	934.03	259.00	126.27	2161.93	1903.38	0.4542
0:38:35	20-OCT	949.03	274.00	126.12	2155.79	1897.24	0.4385
0:55:05	20-OCT	965.53	290.50	126.01	2164.52	1905.97	0.4225
1:10:05	20-OCT	980.53	305.50	125.94	2174.96	1916.41	0.4090
1:25:05	20-OCT	995.53	320.50	125.89	2184.94	1926.39	0.3964
1:40:05	20-OCT	1010.53	335.50	125.85	2196.15	1937.60	0.3847
1:55:05	20-OCT	1025.53	350.50	125.85	2211.20	1952.65	0.3736
2:10:05	20-OCT	1040.53	365.50	125.83	2220.02	1961.47	0.3632
2:26:05	20-OCT	1056.53	381.50	125.82	2226.32	1967.77	0.3528
2:42:05	20-OCT	1072.53	397.50	125.80	2228.41	1969.86	0.3429
2:58:05	20-OCT	1088.53	413.50	125.80	2230.75	1972.20	0.3336
3:14:05	20-OCT	1104.53	429.50	125.78	2235.78	1977.23	0.3249
3:30:05	20-OCT	1120.53	445.50	125.78	2238.69	1980.14	0.3166
3:46:05	20-OCT	1136.53	461.50	125.78	2240.03	1981.48	0.3087
4:02:05	20-OCT	1152.53	477.50	125.80	2245.18	1986.63	0.3013
4:18:05	20-OCT	1168.53	493.50	125.80	2249.77	1991.22	0.2942

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 258.55 PSIA
PRODUCING TIME = 478.00 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
4:34:05	20-OCT	1184.53	509.50	125.82	2253.06	1994.51	0.2874
4:49:05	20-OCT	1199.53	524.50	125.83	2258.03	1999.48	0.2813
5:05:05	20-OCT	1215.53	540.50	125.85	2259.57	2001.02	0.2752
5:21:05	20-OCT	1231.53	556.50	125.87	2262.56	2004.01	0.2693
5:37:05	20-OCT	1247.53	572.50	125.89	2265.81	2007.26	0.2636
5:53:05	20-OCT	1263.53	588.50	125.91	2268.91	2010.36	0.2582
6:09:05	20-OCT	1279.53	604.50	125.92	2272.25	2013.70	0.2530
6:25:05	20-OCT	1295.53	620.50	125.94	2275.78	2017.23	0.2481
6:41:05	20-OCT	1311.53	636.50	125.98	2278.66	2020.11	0.2433
6:57:05	20-OCT	1327.53	652.50	126.00	2281.67	2023.12	0.2387
7:13:05	20-OCT	1343.53	668.50	126.03	2284.35	2025.80	0.2343
7:29:05	20-OCT	1359.53	684.50	126.05	2286.16	2027.61	0.2300
7:45:05	20-OCT	1375.53	700.50	126.07	2288.29	2029.74	0.2259
8:01:05	20-OCT	1391.53	716.50	126.09	2290.51	2031.96	0.2220
8:17:05	20-OCT	1407.53	732.50	126.12	2292.87	2034.32	0.2182
8:33:05	20-OCT	1423.53	748.50	126.14	2295.17	2036.62	0.2145
8:48:05	20-OCT	1438.53	763.50	126.16	2300.01	2041.46	0.2111
9:04:05	20-OCT	1454.53	779.50	126.19	2306.59	2048.04	0.2077
9:19:05	20-OCT	1469.53	794.50	126.21	2305.57	2047.02	0.2046
9:34:35	20-OCT	1485.03	810.00	126.25	2307.25	2048.70	0.2014
9:50:35	20-OCT	1501.03	826.00	126.25	2306.59	2048.04	0.1983
10:05:35	20-OCT	1516.03	841.00	126.27	2310.17	2051.62	0.1954
10:21:35	20-OCT	1532.03	857.00	126.30	2310.82	2052.27	0.1925
10:37:35	20-OCT	1548.03	873.00	126.32	2310.86	2052.31	0.1896
10:52:35	20-OCT	1563.03	888.00	126.34	2313.14	2054.59	0.1870
11:08:35	20-OCT	1579.03	904.00	126.37	2314.79	2056.24	0.1843
11:24:35	20-OCT	1595.03	920.00	126.39	2316.94	2058.39	0.1817
11:39:35	20-OCT	1610.03	935.00	126.41	2319.73	2061.18	0.1793
11:54:35	20-OCT	1625.03	950.00	126.45	2321.57	2063.02	0.1770
12:09:35	20-OCT	1640.03	965.00	126.46	2321.31	2062.76	0.1747
12:22:05	20-OCT	1652.53	977.50	126.45	2312.71	2054.16	0.1729

PROCESSING FOR TICKET NUMBER 142662 on 10/21/1996 17:11:01
Ticket Version identified by Tool Codes is 2.0

Company: PETRAL EXPLORATION Well: KNOCKANDO #2
Test type: DST Report type: PDR, (Level 1)
Technician: MIKE McCURDY District: VERNAL

Checking for Label point and Pressure files
Test Valve not found in Equipment List
Found 142662.P11 and 142662.L11

Checking flow and shutin period delta times correspond between files

Below, warnings only printed if more than two minute variance + or -:

Creating Master Analysis log files

Creating ISS OPT file: 142662.opt
Gauge number used and on cover page is 9060 at depth 5063 ft
WARNING --- No distribution found!!

REMARKS for CLIENT on test ticket

RECOVERY WAS A TOTAL OF 5.5 BBLS.

COMMENTS for ANALYST

end ----- trans.exe ----- Version 4.1 October 26, 1994 ----- 17:11:02

FIELD REPORT

TYPE OF SERVICE
DST-HPR

DATE
17-OCT-1996

DISTRICT
VERNAL

Page
1 of 2

WELL OWNER: PERTAL EXPLORATION

SERVICE ORDER NUMBER: 142661

REPORTS ADDRESS:

WELL NAME & NO.: KNOCKANDO #2

FIELD: W/C

LEASE:

LOCATION:

COUNTY: SAN JUAN

STATE: UTAH

TEST NO. ONE

TEST INTERVAL FROM 5146 FT TO 5206 FT = 60 FT

SURFACE DATA

EQUIPMENT SEQUENCE

[illegible]

RECOVERY DESCRIPTION	FEET	BELS	OIL GRAVITY	RESISTIVITY	CHLORIDES		
TOP SAMPLE				0.195 OHMS 70 °F	35000 PPM		
MIDDLE				0.085 OHMS 70 °F	90000 PPM		
BOTTOM				0.264 OHMS 70 °F	25000 PPM		
OIL,GAS CUT		24					
MUD							

SERVICE ORDER NUMBER:

142661

SCHLUMBERGER ENGINEER/TECHNICIAN

MIKE McCURDY

Schlumberger

FIELD REPORT

TYPE OF SERVICE
DST-HPRDATE
17-OCT-1996DISTRICT
VERNALPage
2 of 2

INSTRUMENT DATA

INSTRUMENT NO.	9060	1238	2051		
CAPACITY (PSIG)	20000	4700	6400		
DEPTH	5122	5158	5168		
INSIDE-OUTSIDE	IN	IN	IN		
CLOCK CAP	ELECTRONIC	48-HR	48-HR		
TEMPERATURE °F					
I. HYD. PSIG					
I. FLOW PSIG					
I.S.I. PSIG					
2nd FLOW PSIG					
2nd S.I. PSIG					
F. FLOW PSIG					
F.S.I. PSIG					
F. HYD. PSIG					

MUD DATA

MUD TYPE	GEL CHEM	MUD WT	9.7	#/gal
VISCOSITY	40	WATER LOSS		CC
RESISTIVITY: OF MUD		@	°F	
RESISTIVITY: OF FILTRATE	1.742 @ 32	°F		
CHLORIDES	5900	PPM		
H2S DURING TEST		PPM		

WELL BORE DATA

FORMATION TESTED	ISMAY			
NET PRODUCTIVE INTERVAL	60	ft	EST. POROSITY	8 %
ELEVATION		ft	DEPTH MEASURED FROM KB	
TOTAL MEASURED DEPTH				ft
O H SIZE	7.875	in		
CASING SIZE				
LINER SIZE				
PERF INTERVAL FROM		ft	TO	ft
SHOT DENSITY				

CUSHION	LENGTH	AMOUNT	SURFACE PRESS	BOTTOM CHOKE SIZE
NONE				0.94

SAMPLER DATA

RECOVERY			RESISTIVITY			CHLORIDES	
GAS	.50	C.F.	RECOVERED WATER	0.055 @ 70	deg F	160000	PPM
OIL	20	C.C.	RECOVERED MUD	@	deg F		
WATER	1790	C.C.	REC.MUD FILTRATE	@	deg F		PPM
MUD		C.C.	PIT MUD	@	deg F		
GRAVITY	°API	°F	PIT MUD FILTRATE	@	deg F		PPM
GOR 3970	C.F./BBL		SAMPLER PRESSURE	1120	psig		

REMARKS:

SERVICE ORDER NUMBER:

142661

SCHLUMBERGER ENGINEER/TECHNICIAN

MIKE McCURDY

REPORT NO.
142661

PAGE NO. 1

S T A R

Schlumberger Testing Data Report

Schlumberger

TEST DATE:
17-OCT-1996

Pressure Data Report

COMPANY: PERTAL EXPLORATION

WELL: KNOCKANDO #2

TEST IDENTIFICATION

Test Type DST-HPR
Test No. ONE
Formation ISMAY
Test Interval (ft) 5146 to 5206
Depth Reference KB

WELL LOCATION

Field W/C
County SAN JUAN
State UTAH
Elevation (ft)

HOLE CONDITIONS

Total Depth (MD/TVD) (ft)
Hole Size (in) 7.875
Casing/Liner I.D. (in)
Perf'd Interval/Net Pay (ft) .. / 60
Shot Density/Diameter (in) ...

MUD PROPERTIES

Mud Type GEL CHEM
Mud Weight (lb/gal) 9.7
Mud Resistivity (ohm.m)
Filtrate Resistivity (ohm.m) .. 1.742 @ 32F
Filtrate Chlorides (ppm) 5900

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi) 2636.87
Gas Cushion Type
Surface Pressure (psi)
Liquid Cushion Type
Cushion Length (ft)

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in) ... 0 /
Collar Length (ft)/I.D. (in) .. 0 /
Packer Depths (ft)
Bottomhole Choke Size (in) ... 0.94
Gauge Depth (ft)/Type 5122/9060

NET PIPE RECOVERY

Volume	Fluid Type	Properties
	TOP SAMPLE	Rw0.195@70F 35000ppm
	MIDDLE	Rw0.085@70F 90000ppm
	BOTTOM	Rw0.264@70F 25000ppm
24 bbl	OIL,GAS CUT	
	MUD	

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
.50 cuft	Gas	
20 cc	Oil	
1790 cc	Water	Rw0.055@70F 160000p
Pressure:1120 GOR:3971 GLR:44		

INTERPRETATION RESULTS

Model of Behavior
Fluid Type Used for Analysis..
Reservoir Pressure (psi)
Transmissibility (md.ft/cp) ..
Effective Permeability (md) ..
Skin Factor/Damage Ratio
Storativity Ratio, Omega
Interporos.Flow Coef..Lambda..
Distance to an Anomaly (ft) ..
Radius of Investigation (ft)..
Potentiometric Surface (ft) ..

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API)
Basic Solids (%)
Gas Gravity
GOR (scf/STB)
Water Cut (%)
Viscosity (cp)
Total Compressibility (1/psi)..
Porosity (%) 8
Reservoir Temperature (F)
Form.Vol.Factor (bbl/STB)

PRODUCTION RATE DURING TEST: Data Report

COMMENTS:

This drill stem test was mechanically successful.

Thank you for using Schlumberger. For questions about this report please call the Testing district.

WELL TEST INTERPRETATION REPORT #:142661		PAGE: 2,
CLIENT : PERTAL EXPLORATION		21-OCT-96
REGION : WSD	SEQUENCE OF EVENTS	FIELD: W/C
DISTRICT: VERNAL		ZONE : ISMAY
BASE : DENVER		WELL : KNOCKANDO #2
ENGINEER: MIKE McCURDY		LOCATION:

DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
17-OCT	06:58	HYDROSTATIC MUD-SET PACKER	-2	2637	
	07:00	START FLOW	0	127	
	07:01	BLOW-BOTTOM OF BUCKET	1		
	07:05	10 LB	5		
	07:14	15 LB	14		
	07:15	END FLOW & START SHUT-IN	15	207	
	07:45	END SHUT-IN	45	2063	
	07:47	START FLOW	47	220	
	07:48	GAS TO SURFACE-1/8" CHOKE	48		
	07:57	10 LB	57		
	08:07	11.5 LB	67		
	08:17	14 LB	77		
	08:27	15.5 LB	87		
	08:37	17.50 LB	97		
	08:47	19 LB	107		
	09:07	22 LB	127		
	09:27	22.75	147		
	09:47	22.50	167		
	10:07	22.50	187		
	10:27	22.50	207		
	10:47	22.25	227		
	11:07	21.50	247		
	11:27	20.75	267		
	11:47	19.50	287		
	11:47	END FLOW & START SHUT-IN	287	629	
18-OCT	06:24	END SHUT-IN	1404	2410	
	06:26	HYDROSTATIC MUD	1406	2619	

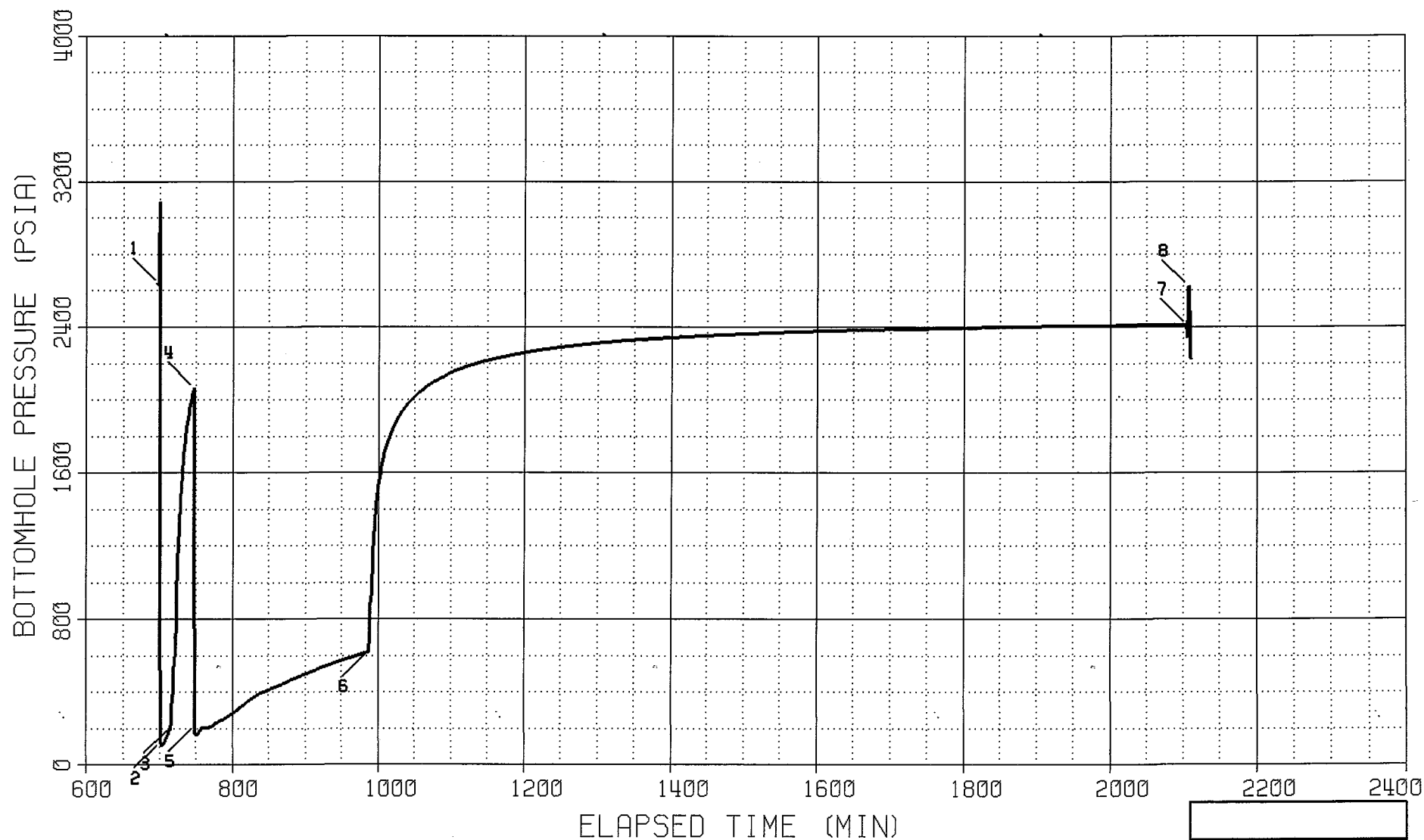
BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 142661
INSTRUMENT NO. HPR-C9060
DEPTH : 5122 FT
CAPACITY : 20000 PSI
PORT OPENING : INSIDE

COMPANY : PETRAL EXPLORATION

WELL : KNOCKANDO

Electronic Pressure Data



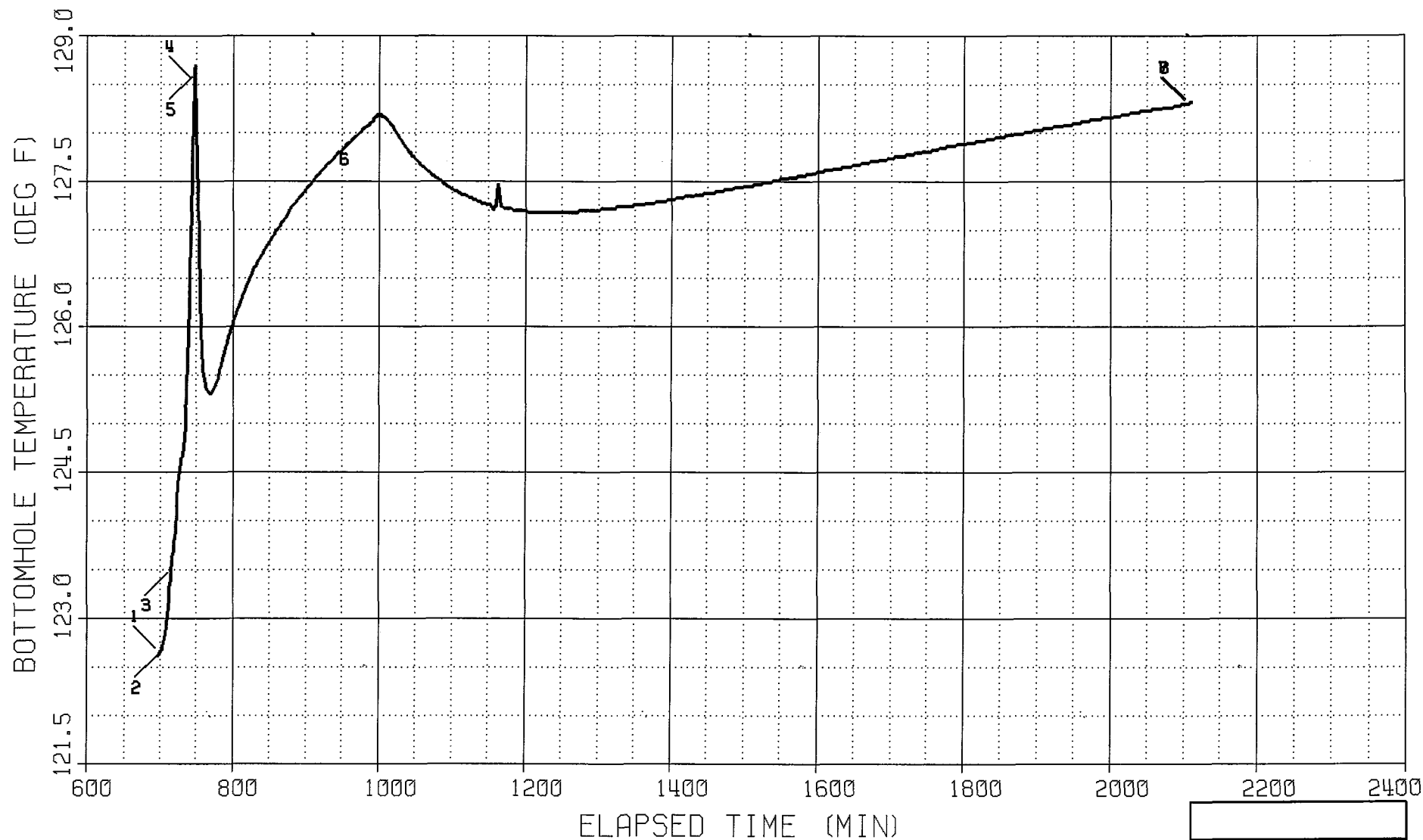
Schlumberger

BOTTOMHOLE TEMPERATURE LOG

FIELD REPORT NO. 142661
INSTRUMENT NO. HPR-C9060
DEPTH : 5122 FT

COMPANY : PETRAL EXPLORATION
WELL : KNOCKANDO

Electronic Temperature Data



Schlumberger

LOG LOG PLOT

COMPANY : PETRAL EXPLORATION

WELL : KNOCKANDO

FIELD REPORT NO. 142661

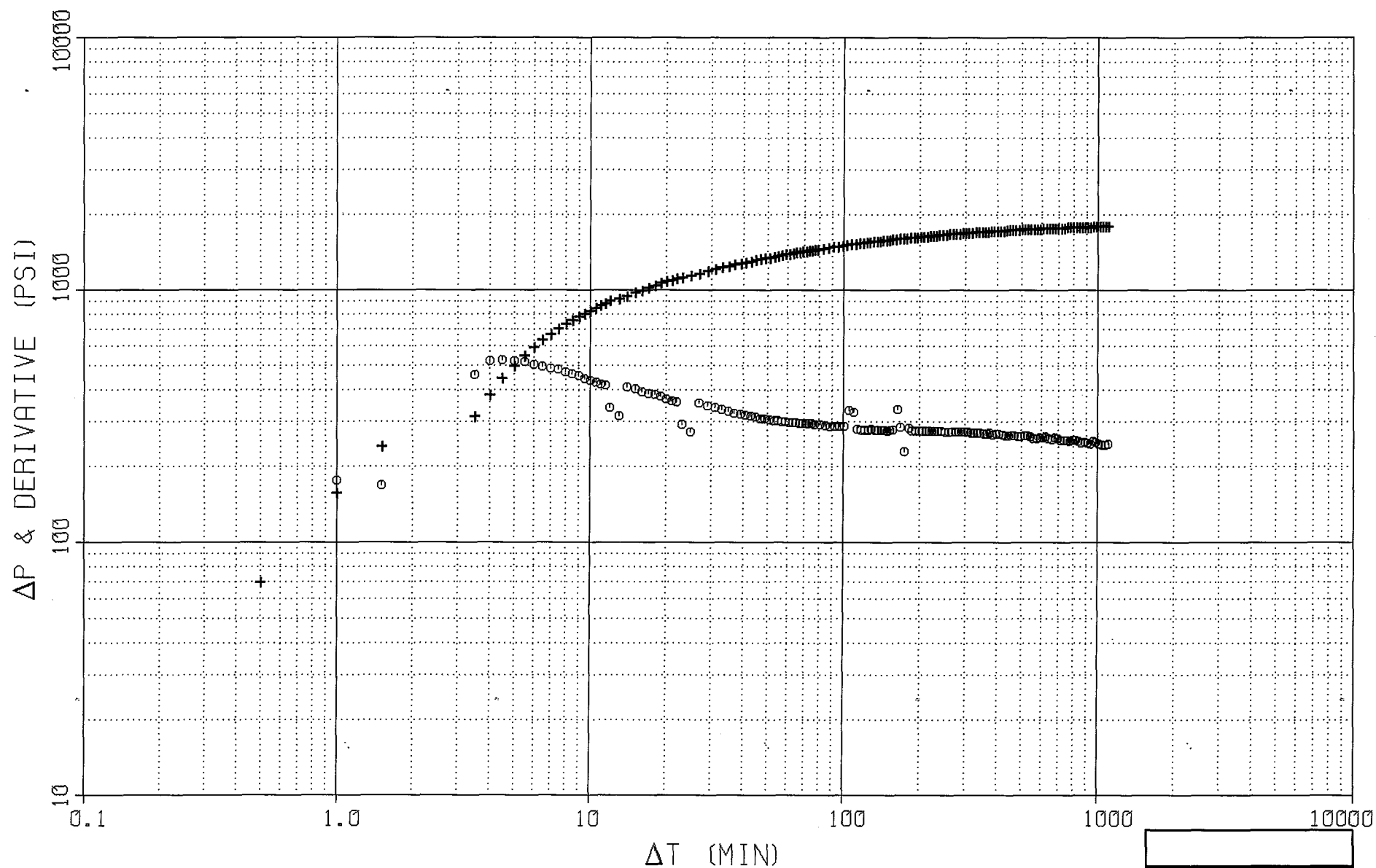
INSTRUMENT NO. HPR-C9060

SHUTIN #2 : PRODUCING TIME (T_p) : 252.5 MIN

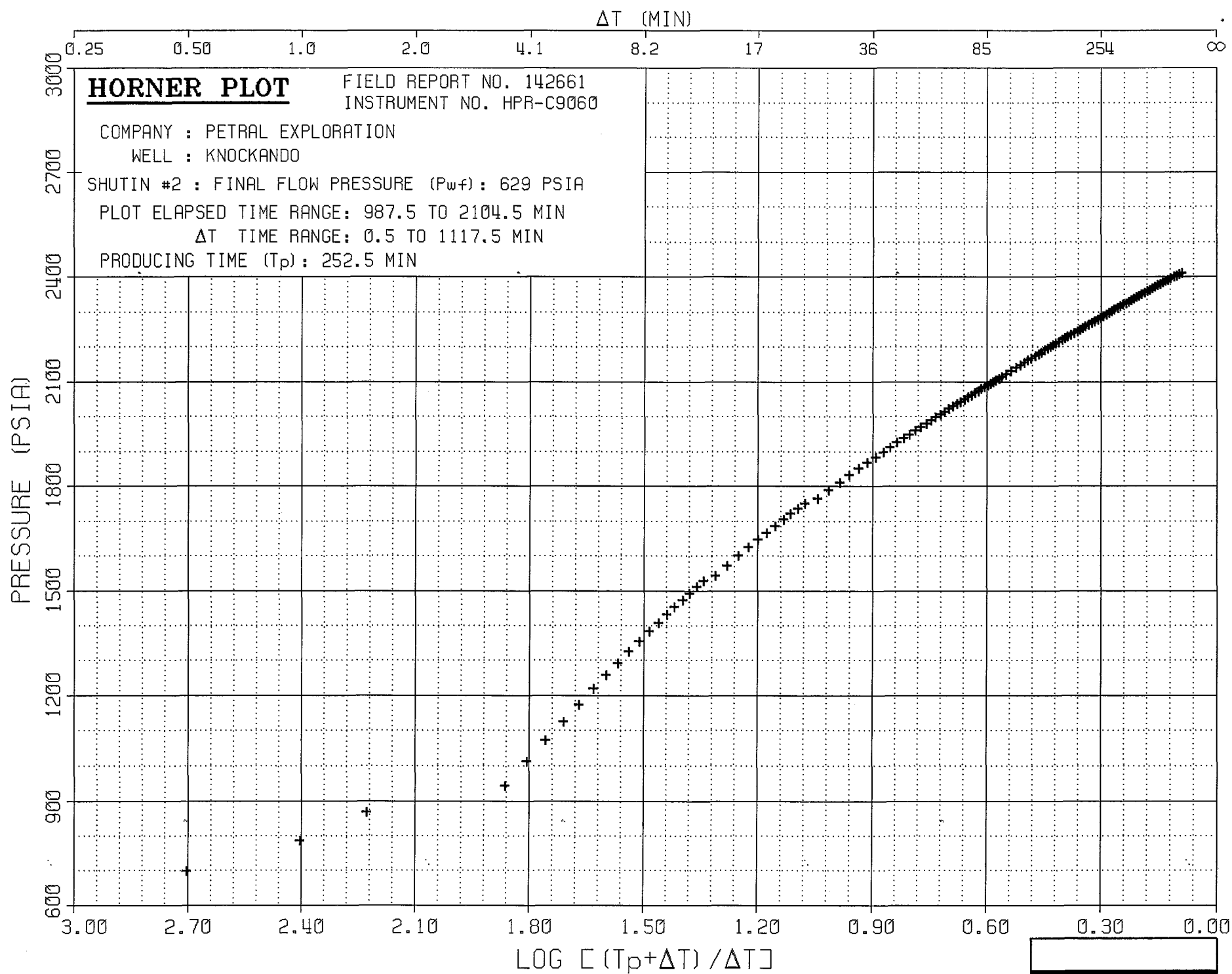
FINAL FLOW PRESSURE (P_{wf}) : 629 PSIA

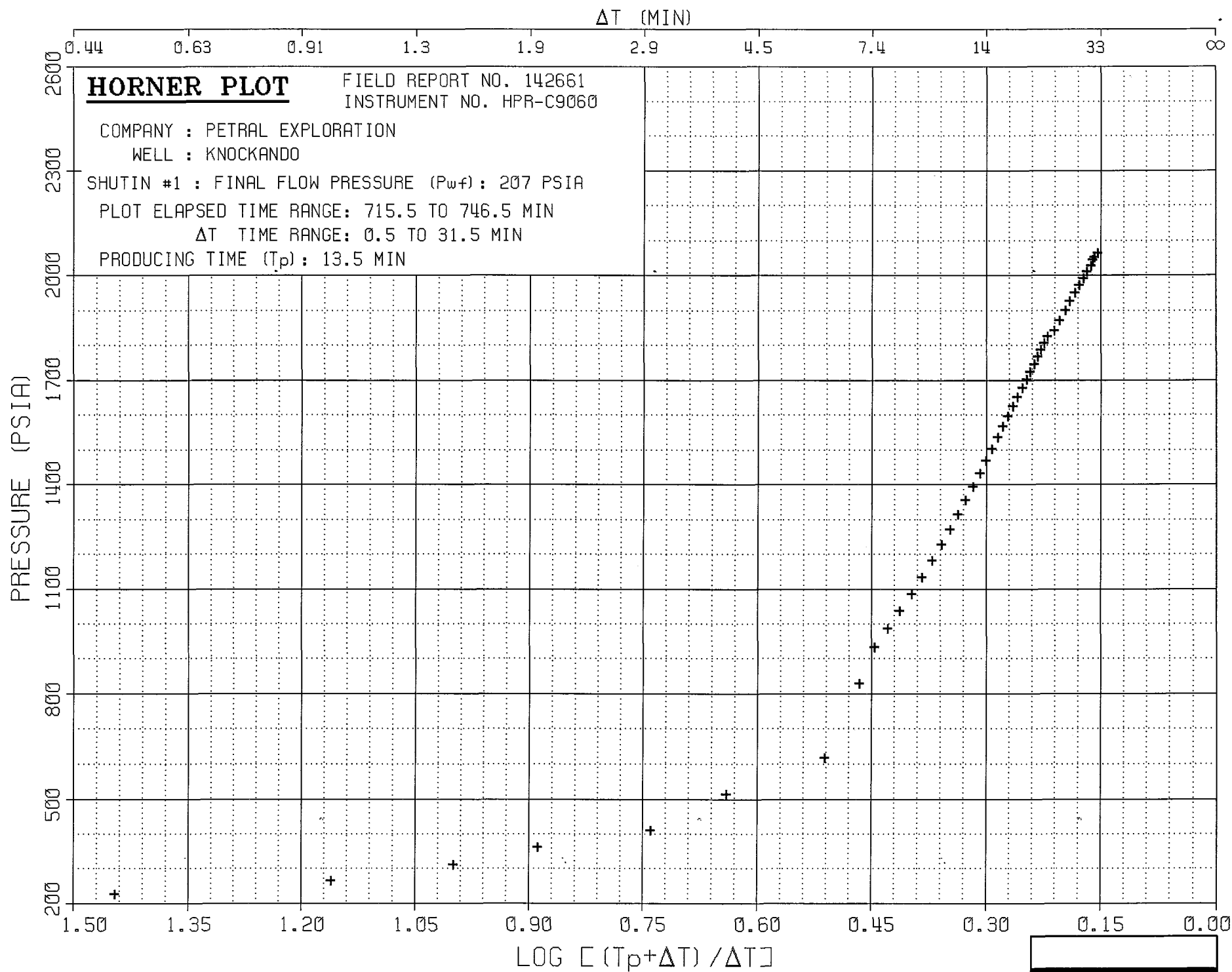
PLOT ELAPSED TIME RANGE: 987.5 TO 2104.5 MIN

ΔT TIME RANGE: 0.5 TO 1117.5 MIN



Schlumberger





 ** WELL TEST DATA PRINTOUT **

COMPANY: PETRAL EXPLORATION
 WELL: KNOCKANDO

FIELD REPORT NO. 142661
 INSTRUMENT NO. HPR-C9060

RECORDER CAPACITY: 20000 PSI PORT OPENING: INSIDE DEPTH: 5122 FT

LABEL POINT INFORMATION

	TIME OF DAY	DATE		ELAPSED TIME, MIN	BOT HOLE PRESSURE PSIA	BOT HOLE TEMP. DEG F
#	HH:MM:SS	DD-MMM	EXPLANATION			
1	6:58:04	17-OCT	HYDROSTATIC MUD	698.53	2636.87	122.65
2	7:01:04	17-OCT	START FLOW	701.53	126.59	122.67
3	7:14:34	17-OCT	END FLOW & START SHUT-IN	715.03	206.88	123.51
4	7:46:04	17-OCT	END SHUT-IN	746.53	2063.31	128.52
5	7:47:34	17-OCT	START FLOW	748.03	220.16	128.62
6	11:46:34	17-OCT	END FLOW & START SHUT-IN	987.03	629.42	128.10
7	6:24:04	18-OCT	END SHUT-IN	2104.53	2410.06	128.30
8	6:26:34	18-OCT	HYDROSTATIC MUD	2107.03	2618.91	128.30

SUMMARY OF FLOW PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	INITIAL PRESSURE PSIA
1	701.53	715.03	13.50	126.59	206.88	126.59
2	748.03	987.03	239.00	220.16	629.42	220.16

SUMMARY OF SHUTIN PERIODS

PERIOD	START ELAPSED TIME, MIN	END ELAPSED TIME, MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	715.03	746.53	31.50	206.88	2063.31	206.88	13.50
2	987.03	2104.53	1117.50	629.42	2410.06	629.42	252.50

TEST PHASE: FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MMM				
7:01:04	17-OCT	701.53	0.00	122.67	126.59
7:14:34	17-OCT	715.03	13.50	123.51	206.88

TEST PHASE: SHUTIN PERIOD # 1

FINAL FLOW PRESSURE = 206.88 PSIA
PRODUCING TIME = 13.50 MIN

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MMM						
7:14:34	17-OCT	715.03	0.00	123.51	206.88	0.00	
7:15:34	17-OCT	716.03	1.00	123.58	265.30	58.42	1.1614
7:16:34	17-OCT	717.03	2.00	123.66	360.72	153.84	0.8893
7:17:34	17-OCT	718.03	3.00	123.69	410.61	203.73	0.7404
7:18:34	17-OCT	719.03	4.00	123.78	512.92	306.04	0.6410
7:20:34	17-OCT	721.03	6.00	123.89	617.45	410.57	0.5119
7:21:34	17-OCT	722.03	7.00	124.11	829.15	622.27	0.4667
7:22:34	17-OCT	723.03	8.00	124.27	985.07	778.19	0.4293
7:23:34	17-OCT	724.03	9.00	124.36	1085.07	878.19	0.3979
7:24:34	17-OCT	725.03	10.00	124.43	1180.38	973.50	0.3711
7:26:34	17-OCT	727.03	12.00	124.56	1354.05	1147.17	0.3274
7:28:34	17-OCT	729.03	14.00	124.65	1501.86	1294.98	0.2932
7:30:34	17-OCT	731.03	16.00	124.70	1624.06	1417.18	0.2657
7:32:34	17-OCT	733.03	18.00	124.83	1723.86	1516.98	0.2430
7:34:34	17-OCT	735.03	20.00	125.13	1805.18	1598.30	0.2240
7:37:04	17-OCT	737.53	22.50	125.64	1871.08	1664.20	0.2041
7:39:04	17-OCT	739.53	24.50	126.23	1925.40	1718.52	0.1906
7:41:04	17-OCT	741.53	26.50	126.88	1970.69	1763.81	0.1788
7:43:04	17-OCT	743.53	28.50	127.51	2009.14	1802.26	0.1684
7:45:04	17-OCT	745.53	30.50	128.25	2049.81	1842.93	0.1592
7:46:04	17-OCT	746.53	31.50	128.52	2063.31	1856.43	0.1549

TEST PHASE: FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MMM				
7:47:34	17-OCT	748.03	0.00	128.62	220.16
8:04:04	17-OCT	764.53	16.50	125.35	200.94
8:19:04	17-OCT	779.53	31.50	125.47	235.44
8:35:04	17-OCT	795.53	47.50	125.94	273.50
8:51:04	17-OCT	811.53	63.50	126.30	318.25
9:07:04	17-OCT	827.53	79.50	126.61	370.25
9:23:04	17-OCT	843.53	95.50	126.81	402.47
9:39:04	17-OCT	859.53	111.50	127.00	428.72
9:54:04	17-OCT	874.53	126.50	127.17	455.87
10:10:04	17-OCT	890.53	142.50	127.33	483.69
10:26:04	17-OCT	906.53	158.50	127.47	510.01
10:42:04	17-OCT	922.53	174.50	127.62	534.81
10:58:04	17-OCT	938.53	190.50	127.74	557.89

TEST PHASE: FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MMM				
11:14:04	17-OCT	954.53	206.50	127.87	579.39
11:30:04	17-OCT	970.53	222.50	127.98	599.44
11:45:04	17-OCT	985.53	237.50	128.08	619.15
11:46:34	17-OCT	987.03	239.00	128.10	629.42

TEST PHASE: SHUTIN PERIOD # 2

FINAL FLOW PRESSURE = 629.42 PSIA
PRODUCING TIME = 252.50 MIN

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MMM						
11:46:34	17-OCT	987.03	0.00	128.10	629.42	0.00	
11:47:34	17-OCT	988.03	1.00	128.10	784.94	155.52	2.4040
11:50:04	17-OCT	990.53	3.50	128.12	943.00	313.58	1.8642
11:51:04	17-OCT	991.53	4.50	128.12	1071.65	442.23	1.7567
11:52:04	17-OCT	992.53	5.50	128.14	1174.67	545.25	1.6713
11:53:04	17-OCT	993.53	6.50	128.16	1257.02	627.60	1.6004
11:54:04	17-OCT	994.53	7.50	128.16	1325.21	695.79	1.5399
11:55:04	17-OCT	995.53	8.50	128.17	1382.59	753.17	1.4872
11:56:04	17-OCT	996.53	9.50	128.17	1431.34	801.92	1.4406
11:57:04	17-OCT	997.53	10.50	128.19	1473.40	843.98	1.3988
11:59:34	17-OCT	1000.03	13.00	128.19	1542.97	913.55	1.3101
12:01:34	17-OCT	1002.03	15.00	128.19	1598.87	969.45	1.2512
12:03:34	17-OCT	1004.03	17.00	128.17	1645.35	1015.93	1.2001
12:05:34	17-OCT	1006.03	19.00	128.16	1685.12	1055.70	1.1550
12:07:34	17-OCT	1008.03	21.00	128.16	1719.35	1089.93	1.1147
12:09:34	17-OCT	1010.03	23.00	128.14	1749.26	1119.84	1.0784
12:11:34	17-OCT	1012.03	25.00	128.12	1762.95	1133.53	1.0453
12:13:34	17-OCT	1014.03	27.00	128.10	1788.01	1158.59	1.0150
12:15:34	17-OCT	1016.03	29.00	128.08	1810.56	1181.14	0.9871
12:17:34	17-OCT	1018.03	31.00	128.07	1831.03	1201.61	0.9612
12:23:34	17-OCT	1024.03	37.00	127.99	1882.82	1253.40	0.8934
12:29:34	17-OCT	1030.03	43.00	127.92	1924.22	1294.80	0.8371
12:35:34	17-OCT	1036.03	49.00	127.85	1958.53	1329.11	0.7891
12:41:34	17-OCT	1042.03	55.00	127.80	1987.72	1358.30	0.7475
12:47:34	17-OCT	1048.03	61.00	127.74	2013.02	1383.60	0.7109
12:53:34	17-OCT	1054.03	67.00	127.69	2035.21	1405.79	0.6784
12:59:34	17-OCT	1060.03	73.00	127.65	2054.98	1425.56	0.6492
13:05:34	17-OCT	1066.03	79.00	127.60	2072.84	1443.42	0.6229
13:11:34	17-OCT	1072.03	85.00	127.56	2088.90	1459.48	0.5989
13:17:34	17-OCT	1078.03	91.00	127.53	2103.49	1474.07	0.5769
13:23:34	17-OCT	1084.03	97.00	127.51	2116.86	1487.44	0.5567
13:29:34	17-OCT	1090.03	103.00	127.47	2129.15	1499.73	0.5380
13:36:04	17-OCT	1096.53	109.50	127.44	2144.20	1514.78	0.5193
13:42:04	17-OCT	1102.53	115.50	127.40	2154.53	1525.11	0.5033
13:48:04	17-OCT	1108.53	121.50	127.38	2164.15	1534.73	0.4883
13:54:04	17-OCT	1114.53	127.50	127.36	2173.12	1543.70	0.4743
14:00:04	17-OCT	1120.53	133.50	127.35	2181.59	1552.17	0.4611
14:06:04	17-OCT	1126.53	139.50	127.33	2189.52	1560.10	0.4487
14:12:04	17-OCT	1132.53	145.50	127.31	2197.04	1567.62	0.4370

TEST PHASE: SHUTIN PERIOD # 2

FINAL FLOW PRESSURE = 629.42 PSIA
PRODUCING TIME = 252.50 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
14:18:04	17-OCT	1138.53	151.50	127.29	2204.09	1574.67	0.4260
14:24:04	17-OCT	1144.53	157.50	127.27	2210.77	1581.35	0.4155
14:30:04	17-OCT	1150.53	163.50	127.26	2217.11	1587.69	0.4056
14:35:04	17-OCT	1155.53	168.50	127.20	2224.08	1594.66	0.3977
14:41:04	17-OCT	1161.53	174.50	127.38	2227.63	1598.21	0.3886
14:47:34	17-OCT	1168.03	181.00	127.24	2233.83	1604.41	0.3793
15:03:34	17-OCT	1184.03	197.00	127.20	2247.20	1617.78	0.3583
15:19:34	17-OCT	1200.03	213.00	127.20	2259.11	1629.69	0.3395
15:35:34	17-OCT	1216.03	229.00	127.18	2269.76	1640.34	0.3228
15:51:34	17-OCT	1232.03	245.00	127.18	2279.38	1649.96	0.3076
16:07:34	17-OCT	1248.03	261.00	127.18	2287.99	1658.57	0.2939
16:23:34	17-OCT	1264.03	277.00	127.18	2295.88	1666.46	0.2814
16:39:34	17-OCT	1280.03	293.00	127.20	2303.04	1673.62	0.2699
16:55:34	17-OCT	1296.03	309.00	127.20	2309.67	1680.25	0.2594
17:11:34	17-OCT	1312.03	325.00	127.22	2315.74	1686.32	0.2497
17:27:34	17-OCT	1328.03	341.00	127.24	2321.35	1691.93	0.2407
17:43:34	17-OCT	1344.03	357.00	127.24	2326.55	1697.13	0.2323
17:59:34	17-OCT	1360.03	373.00	127.26	2331.37	1701.95	0.2245
18:15:34	17-OCT	1376.03	389.00	127.27	2335.82	1706.40	0.2172
18:31:34	17-OCT	1392.03	405.00	127.29	2340.02	1710.60	0.2104
18:47:34	17-OCT	1408.03	421.00	127.33	2343.98	1714.56	0.2041
19:03:34	17-OCT	1424.03	437.00	127.35	2347.64	1718.22	0.1981
19:19:34	17-OCT	1440.03	453.00	127.36	2351.08	1721.66	0.1924
19:35:34	17-OCT	1456.03	469.00	127.38	2354.34	1724.92	0.1871
19:51:34	17-OCT	1472.03	485.00	127.42	2357.41	1727.99	0.1820
20:07:34	17-OCT	1488.03	501.00	127.44	2360.29	1730.87	0.1772
20:23:34	17-OCT	1504.03	517.00	127.45	2363.04	1733.62	0.1727
20:39:34	17-OCT	1520.03	533.00	127.47	2365.62	1736.20	0.1684
20:55:34	17-OCT	1536.03	549.00	127.49	2368.09	1738.67	0.1643
21:11:34	17-OCT	1552.03	565.00	127.53	2370.41	1740.99	0.1604
21:27:34	17-OCT	1568.03	581.00	127.54	2372.65	1743.23	0.1567
21:43:34	17-OCT	1584.03	597.00	127.58	2374.75	1745.33	0.1532
21:59:34	17-OCT	1600.03	613.00	127.60	2376.76	1747.34	0.1498
22:15:34	17-OCT	1616.03	629.00	127.62	2378.66	1749.24	0.1466
22:31:34	17-OCT	1632.03	645.00	127.65	2380.54	1751.12	0.1435
22:47:34	17-OCT	1648.03	661.00	127.67	2382.27	1752.85	0.1405
23:03:34	17-OCT	1664.03	677.00	127.69	2383.97	1754.55	0.1377
23:19:34	17-OCT	1680.03	693.00	127.71	2385.60	1756.18	0.1349
23:35:34	17-OCT	1696.03	709.00	127.74	2387.10	1757.68	0.1323
23:51:34	17-OCT	1712.03	725.00	127.76	2388.61	1759.19	0.1298
0:07:34	18-OCT	1728.03	741.00	127.78	2390.04	1760.62	0.1273
0:23:34	18-OCT	1744.03	757.00	127.81	2391.35	1761.93	0.1250
0:39:34	18-OCT	1760.03	773.00	127.83	2392.69	1763.27	0.1228
0:55:34	18-OCT	1776.03	789.00	127.87	2393.95	1764.53	0.1206
1:11:34	18-OCT	1792.03	805.00	127.89	2395.18	1765.76	0.1185
1:27:34	18-OCT	1808.03	821.00	127.90	2396.36	1766.94	0.1165
1:43:34	18-OCT	1824.03	837.00	127.92	2397.48	1768.06	0.1145
1:59:34	18-OCT	1840.03	853.00	127.94	2398.57	1769.15	0.1126
2:15:34	18-OCT	1856.03	869.00	127.98	2399.61	1770.19	0.1108
2:31:34	18-OCT	1872.03	885.00	127.99	2400.61	1771.19	0.1090

TEST PHASE: SHUTIN PERIOD # 2

FINAL FLOW PRESSURE = 629.42 PSIA
PRODUCING TIME = 252.50 MIN

TIME OF DAY HH:MM:SS	DATE DD-MMM	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE TEMP. DEG F	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
2:47:34	18-OCT	1888.03	901.00	128.01	2401.60	1772.18	0.1073
3:03:34	18-OCT	1904.03	917.00	128.03	2402.56	1773.14	0.1056
3:19:34	18-OCT	1920.03	933.00	128.05	2403.45	1774.03	0.1040
3:35:34	18-OCT	1936.03	949.00	128.08	2404.36	1774.94	0.1025
3:51:34	18-OCT	1952.03	965.00	128.10	2405.23	1775.81	0.1009
4:07:34	18-OCT	1968.03	981.00	128.12	2406.05	1776.63	0.0995
4:23:34	18-OCT	1984.03	997.00	128.14	2406.90	1777.48	0.0980
4:39:34	18-OCT	2000.03	1013.00	128.16	2407.66	1778.24	0.0967
4:55:34	18-OCT	2016.03	1029.00	128.19	2408.43	1779.01	0.0953
5:11:34	18-OCT	2032.03	1045.00	128.21	2409.18	1779.76	0.0940
5:27:34	18-OCT	2048.03	1061.00	128.23	2409.88	1780.46	0.0927
5:43:34	18-OCT	2064.03	1077.00	128.25	2410.58	1781.16	0.0915
5:59:34	18-OCT	2080.03	1093.00	128.26	2411.26	1781.84	0.0903
6:15:34	18-OCT	2096.03	1109.00	128.30	2411.92	1782.50	0.0891
6:24:04	18-OCT	2104.53	1117.50	128.30	2410.06	1780.64	0.0885

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. UTU - 043651
2. NAME OF OPERATOR Petral Exploration, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NA
3. ADDRESS OF OPERATOR c/o McIlnay & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604 (307) 265-4351		7. UNIT AGREEMENT NAME NA
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface NW NW NE Sec. 19-T37S-R25E (2018' FEL & 1388' FWL)		8. FARM OR LEASE NAME Knockando
14. PERMIT NO. 43-037-31780	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5022 GL	9. WELL NO. #2
		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 19-T37S-R25E
		12. COUNTY OR PARISH San Juan
		18. STATE Utah

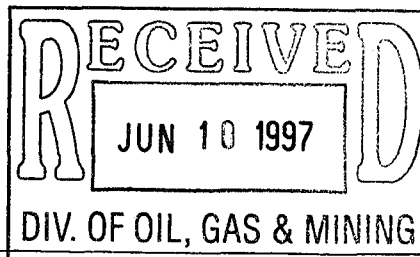
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) Drill directionally off pattern.		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Petral Exploration, LLC requests an exception to paragraph R649-3-2 to directionally redrill this well to a location outside the 400 feet square "window" in the center of a 40 acre quarter-quarter section as specified in paragraph R649-3-2 of the Utah Oil & Gas Conservation Act.

Paragraph R649-3-2 allows for the exception to R649-3-2 to be granted administratively. We request this exception for geological reasons.



18. I hereby certify that the foregoing is true and correct

SIGNED

Ken Fisher

TITLE

McIlnay & Associates
Consulting Engineers

DATE

6/8/97

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT TRIPLICATE*
(Other instructions on
reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input checked="" type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. UTU - 043651	
2. NAME OF OPERATOR Petral Exploration, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NA	
3. ADDRESS OF OPERATOR c/o McIlnay & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604 (307) 265-4351		7. UNIT AGREEMENT NAME NA	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface NW NW NE Sec. 19-T37S-R25E (2018' FEL & 1388' FWL)		8. FARM OR LEASE NAME Knockando	
14. PERMIT NO. 43-037-31780		9. WELL NO. #2	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5022 GL		10. FIELD AND POOL, OR WILDCAT Wildcat	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 19-T37S-R25E	
		12. COUNTY OR PARISH San Juan	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) Drill directionally off pattern <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

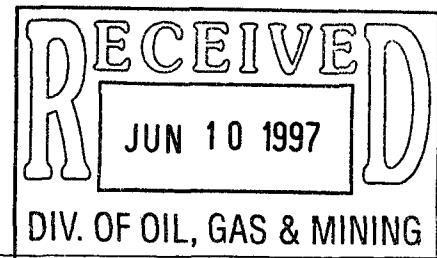
WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Petral Exploration, LLC requests an exception to paragraph R649-3-2 to directionally redrill this well to a location outside the 400 feet square "window" in the center of a 40 acre quarter-quarter section as specified in paragraph R649-3-2 of the Utah Oil & Gas Conservation Act.

Paragraph R649-3-2 allows for the exception to R649-3-2 to be granted administratively. We request this exception for geological reasons.



18. I hereby certify that the foregoing is true and correct

SIGNED John R. Bay

McIlnay & Associates
TITLE Consulting Engineers

DATE 6/8/97

(This space for Federal or State office use)

APPROVED BY John R. Bay
CONDITIONS OF APPROVAL, IF ANY:

TITLE Petroleum Engineer

DATE 6/10/97

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. UTU - 043651
2. NAME OF OPERATOR Petral Exploration, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NA
3. ADDRESS OF OPERATOR c/o McIlnay & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604 (307) 265-4351		7. UNIT AGREEMENT NAME NA
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface NW NW NE Sec. 19-T37S-R25E (2018' FEL & 1388' FWL)		8. FARM OR LEASE NAME Knockando
14. PERMIT NO. 43-037-31780	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5022 GL	9. WELL NO. #2
		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 19-T37S-R25E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>

(Other) Drill directionally off pattern.

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>

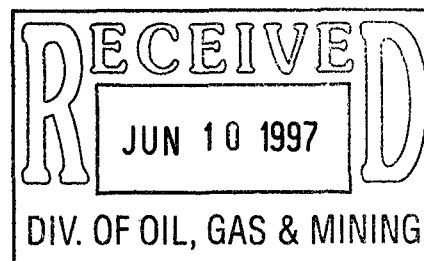
(Other) _____

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Petral Exploration, LLC requests an exception to paragraph R649-3-2 to directionally redrill this well to a location outside the 400 feet square "window" in the center of a 40 acre quarter-quarter section as specified in paragraph R649-3-2 of the Utah Oil & Gas Conservation Act.

Paragraph R649-3-2 allows for the exception to R649-3-2 to be granted administratively. We request this exception for geological reasons.



18. I hereby certify that the foregoing is true and correct

SIGNED Ken DisherMcIlnay & Associates
TITLE Consulting EngineersDATE 6/10/97

(This space for Federal or State office use)

APPROVED BY John R. Baya
CONDITIONS OF APPROVAL, IF ANY:TITLE Petroleum EngineerDATE 6/10/97



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

June 10, 1997

Petral Exploration, LLC
c/o McIlnay & Associates, Inc.
2305 Oxford Lane
Casper, Wyoming 82604

Re: Knockando 2 Well, 2018' FSL, 1388' FWL, NE SW, Sec. 19,
T. 37 S., R. 25 E., San Juan County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-037-31780.

Sincerely,

Lowell P. Braxton
Deputy Director

lwp

Enclosures

cc: San Juan County Assessor
Bureau of Land Management, Moab District Office

Operator: Petral Exploration, LLC
Well Name & Number: Knockando 2
API Number: 43-037-31780
Lease: UTU-075897
Location: NE SW Sec. 19 T. 37 S. R. 25 E.

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801) 538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801) 538-5334 or Mike Hebertson at (801) 538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. In accordance with Utah Admin. R. 649-3-11, Directional Drilling, submittal of a complete angular deviation and directional survey report is required.

5. If the well is completed for production, the operator shall obtain production history and reservoir information as necessary to propose an appropriately sized drilling unit for the horizontal interval. The operator shall furthermore obtain approval of a horizontal drilling unit for this well and any additional horizontal wells by order of the Board of Oil, Gas and Mining after appropriate notice and hearing. The operator shall take such actions within one year of completing the well for production.

ENTITY ACTION FORM - DOGM FORM 6

OPERATOR Petral Exploration, LLC

OPERATOR CODE N7700

ADDRESS c/o McIlnay & Associates, Inc.

PHONE NO. 307 , 265-4351

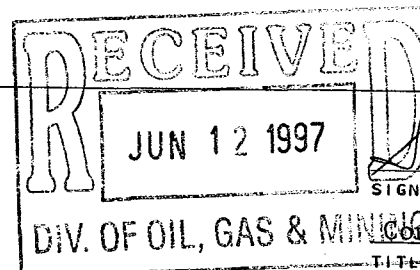
2305 Oxford Lane

Casper, WY 82604

OPERATORS MUST COMPLETE FORM UPON SPUDDING NEW WELL OR WHEN CHANGE IN OPERATIONS OR INTERESTS NECESSITATES CHANGE IN EXISTING ENTITY NUMBER ASSIGNMENT.

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
E	11954	12132	43-037-31780	Knockando #2 (Redrill)	NW NW NE	19	37S	25E	San Juan	9-30-96 Orig. 6-9-97 Redrill	
COMMENTS: Knockando #2 was originally drilled under the Knockando Unit. The Knockando Unit has been cancelled. The well was shut-in w/5½" casing set @ 5443.70' KB. Presently we are drilling a lateral hole in a NE updip direction.											
COMMENTS: Entity added 6-13-97. Lee											
COMMENTS:											
COMMENTS:											
COMMENTS:											
COMMENTS:											

ACTION CODES: A - ESTABLISH NEW ENTITY FOR NEW WELL
B - ADD NEW WELL TO EXISTING ENTITY
C - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO ANOTHER EXISTING ENTITY
D - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO A NEW ENTITY
E - OTHER (EXPLAIN IN COMMENTS SECTION)
(SEE INSTRUCTIONS)



SIGNATURE Shawn Oe
McIlnay & Associates, Inc.
Cons. Engineers
DATE 6-9-97

facsimile

TRANSMITTAL

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, I.L.C., #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: June 20, 1997
pages: 4 , including cover sheet.

Weekly progress reports

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlnay & Associates, Inc.
2305 Oxford Lane
Casper, WY 82601

307 265-4351
Fax: 307 473-1218

Daily Drilling Report
Petrar Exploration, L.L.C.Knockando #2 Re-drill, UTU-043651
Page 4**6-14-97** 6 day from spud**Depth:** 5148' - made 59' in 4 3/4 hrs., Cum. Drlg. Hrs. 12 1/4**Status:** TIH, RU Wireline

Hours: 4 1/4 Drilling
 7 3/4 Tripping
 3/4 Circulating
 3 1/4 Logging
 2 1/2 RU Steering Tools
 3 Waiting on Mud Motor
 2 1/2 Work Stuck Pipe

BIT: 2, 4 3/4", STC, MFP37P, SN - LM-8257, In @ 5008' - made 140' in 12 1/4 hrs., Jets 15-15-15, 11.4'/hr.**Surveys:** Gyro Survey

MD	Angle	Dir	TVD	N+/S-	E+/W-	Closure	Direction
5100	36.9	58.3	5092.9	47	37	59.81	38.21
5128	46.6	55.2	5113.8	57	52	77.16	42.37

Mud: Wt. 8.7 Vis 27, pH 8.5, Alk (Pf/Mf) .05/.15, Cal 2000 ppm, Chloride 44,000 ppm**BHA:** Bit, 3" motor w/4 11/16" offset 0.15" stabilizer, 2-Monel DCs, 30 Jts. PH6 2 7/8" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO - 1709.57'

WOB - 4-6000#, RPM 265, Pump PSI 1300/1350, GPM 137, AVDP/AVDC 233/507

Pump #1 - 4 1/2 x 8, SPM 92

Details: RU wet connect. Ran GR strip log from 4940' to 5067'. Drilled to 5148' KB building angle. Pumped polymer sweeps each connection. Motor stalled out and was stuck on bottom. Able to circulate freely but could not move pipe. Worked free in 2 hours. Circulated hole clean and changed shaker screens to 3 x 110 mesh so polymer would not all go to the pit. TOIL. Motor stabilizer had come loose and was jammed around the bit locking up the motor. Waited 3 hrs for Phoenix to get another mud motor from Montezuma Creek. TIII. RU wet connect.

6-15-97 7 day from spud**Depth:** 5450' - made 302' in 13 1/4 hrs., Cum. Drlg. Hrs. 25 1/2**Status:** Drilling with Steering Tool

Hours: 13 1/4 Drilling
 7 Tripping
 1 Rig Repair
 2 Circulating
 3/4 Change BHA

BIT: 2, 4 3/4", STC, MFP37P, SN - LM-8257, In @ 5008', Out @ 5185' - made 177' in 14 1/4 hrs., Jets 15-15-15, T4-B4-In gauge, 12.42'/hr.

3, 4 3/4", STC, MFP37P, SN - LM 8256, In @ 5185' - made 265' in 11 1/4, Jets 15-15-15, 23.56'/Hr.

Surveys: Gyro Survey

MD	Angle	Dir	TVD	N+/S-	E+/W-	Closure	Direction
5163	68.2	51.8	5132.5	75	76	106.77	45.38
5194	89.6	51.5	5138.4	94	99	136.52	45.48
5226	90.9	52.4	5138.3	113	125	168.51	47.89
5257	89.3	56.2	5138.2	131	150	199.15	48.89
5288	85.7	56.3	5139.6	149	176	230.60	49.75
5320	84.6	55.1	5142.3	167	202	262.09	50.42
5351	87.6	54.2	5144.4	184	227	292.21	50.97
5382	90.2	53.7	5145.0	203	252	323.59	51.15
5413	87.7	50.8	5145.6	222	277	354.98	51.29

Mud: Wt. 8.8 Vis 30, FC 1, pH 7.5, PV 5, YP 5, Gels 1/1, Alk (Pf/Mf) .00/.15, Salt 72,600 ppm, Solids .5, Sand .25, Cal 3500 ppm, Chloride 44,000 ppm**BHA:** Bit, 3" motor w/4 11/16" offset 0.15" stabilizer, 2-Monel DCs, 30 Jts. PH6 2 7/8" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO - 1709.57'

WOB - 4-6000#, RPM 265, Pump PSI 1250/1350, GPM 152, AVDP/AVDC 259/562

Pump #1 - 4 1/2 x 8, SPM 92

Geo: See mud logger report

Daily Drilling Report
Petal Exploration, LLCKnockando #2 Re-drill, UTU-043651
Page 5**6/15/97 Continued**

Details: Drilling with steering tools and MWD-GR. Repaired pump swab and liner. Drilled to 5185' MD. Circulated bottoms up. Trip for less aggressive BHA. PU 1.63° motor (capable of building 16°/100'). Drilled to 5173' MD (See Note). Circulated samples. Drilling with no problems in Ismay porosity.
NOTE: Geologists will make a correction uphole of 11' to correlate to open-hole log GR.

6-16-97 8 day from spud**Depth:** 5780' - made 330' in 19 hrs., Cum. Drlg. Hrs. 44½**Status:** Tripping for Logs, SLM

Hours: 19 Drilling
2 ½ Tripping
1 ½ Circulating
1 RD Scientific

BIT: 3, 4¼, STC, MFP37P, SN - LM 8256, In @ 5185', Out @ 5780' - made 595' in 30¼, Jets 15-15-15, 19.67"/Hr

Surveys: Gyro Survey

MD	Angle	Dip	TVD	N/S-	E/W-	Closure	Direction
5413	87.7	50.8	5145.6	222	277	354.98	51.29
5444	90.2	49.5	5146.1	241	300	384.81	51.22
5476	90.1	51.4	5146.1	262	325	417.46	51.13
5507	90.7	51.0	5145.8	281	349	448.06	51.16
5538	89.7	51.0	5145.7	301	375	480.86	51.25
5570	90.2	49.4	5145.8	321	398	511.32	51.11
5601	90.5	50.0	5145.6	341	422	542.55	51.06
5632	91.1	50.6	5145.1	361	445	573.01	50.95
5664	90.8	51.1	5144.6	381	470	605.02	50.97
5695	91.2	49.7	5144.1	401	494	636.26	50.93
5726	91.5	49.7	5143.3	421	518	667.51	50.90
5758	92.0	48.8	5142.4	442	542	699.37	50.80

Mud: Wt. 9.0 Vis 32, FC 1, pH 7, PV 6, YP 10, Gels ¾, Alk (Pf/Mf) .00/.15, Salt 72,600 ppm, Solids 2, Sand .25, Cal 6800 ppm, Chloride 44,000 ppm

BHA: Bit, 3° motor, 2-Monel DCs, 30 Jts. PH6 2⅞" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO = 1709.57'

WOB - 4-6000#, RPM 265, Pump PSI 1250/1350, GPM 152, AVDP/AVDC 259/562

Pump #1 - 4½ x 8, SPM 92

Geo: See mud logger report

Details: Drilling with steering tools and MWD-GR. Tried to turn the hole up then down. Seemed to be following porosity and would not respond to changing the toolface. Geologists decided that direction and angle were OK. Good gas shows and connection gas. Small rainbow of oil on mud after each connection. Drilled to 5780' MD. Mud motor began stalling out. Geologist said this was OK for TD. Circulated bottoms up. Conditioned mud for logs. Trip for logs, SLM.

6-17-97 9 day from spud**Depth:** 5780' - Cum. Drlg. Hrs. 44½**Status:** LD DP & DCs

Hours: 9 ¾ Tripping
1 Circulating
1 Cut Drilling Line
5 ½ Logging
¾ Set Swivel Back
6 Lay down DP & DCs

BIT: 3, 4¼, STC, MFP37P, SN - LM 8256, In @ 5185', Out @ 5780' - made 595' in 30¼, Jets 15-15-15, 12-BE-In gauge, 19.67"/Hr

Mud: Wt. 9.0 Vis 34, FC 1, pH 7, PV 7, YP 13, Gels 3/5, Alk (Pf/Mf) .0/.2, Salt 85,800 ppm, Solids 1.6, Sand .25, Cal 8200 ppm, Chloride 52,000 ppm

BHA: Bit, 3° motor, 2-Monel DCs, 30 Jts. PH6 2⅞" tubing, XO, 4 Jts. DP, XO, 20-4" DCs, XO = 1709.57'

Pump #1 - 4½ x 8, SPM 102

Daily Drilling Report
Petral Exploration, LLC

Knockando #2 Re-drill, UTU-043651
Page 6

6/17/97 Continued

Details: Finished TOH. RU Schlumberger to run TDT log inside tubing using latch down and side-entry sub. Ran log from 4840' to 5762'. (Depths are corrected to Open Hole logs). RD Schlumberger. PU bit and TIH. Circulated and conditioned mud to 9.1#/gal. and 32 vis. TOH laying down DP and Des. Will run 2 3/8" tubing and packer, nipple up well head and release rig. Will move completion rig on when rig moves from location.

6-18-97 10 day from spud

Depth: 5780' - Cum. Drlg. Hrs. 44 1/2

Status: Rig Released

Hours: 2 RU to Run Tubing
3 1/2 PU & Run 2 3/8" Tubing
1 1/2 Land Tubing & Set Packer
7 ND BOP, NU Tbg. Head, Clean Mud Tanks

Mud: Wt. 9.0 Vis 34, FC 1, pH 7, PV 7, YP 13, Gels 3/5, Alk (Pf/Mf) .0/2, Salt 85,800 ppm, Solids 1.6, Sand .25, Cal 8200 ppm, Chloride 52,000 ppm

BHA: Pump #1 - 4 1/2 x 8

Details: Finished laying down DP & DCs. PU & RIH with Baker Lockset Casing packer with wireline guide, 1.81" I.D. Baker "F" Nipple, 1 Jt. 2 3/8" 4.7#/ft., J-55, 8R, EUE tubing, 1 - 2' x 2 3/8" tubing sub, 155 Jts. 2 3/8" 4.7#/ft., J-55, 8R, EUE tubing & TIW safety safety valve (valve closed). Set packer with 10,000# compression at 4862.95' KB. ND BOP. NU tubing bonnet with full-opening valve. Cleaned mud tanks. Released rig at 8:00 p.m. 6/17/97.

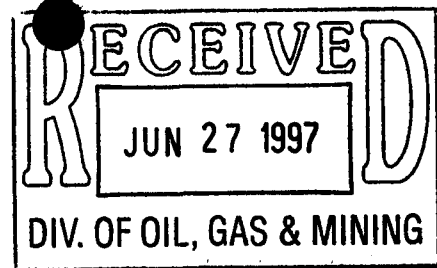
6/19/97

Four Corners Drilling rigging down and moving off the location. Cullum's Pumping Service will rig up test unit Friday a.m. for flow test. Will move Big "A" service rig from Knockdhu #3 to this well when finished running rods there.

6/20/97

Will set unit in a.m. (Friday). Will move service rig in Friday a.m.

facsimile
TRANSMITTAL



to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: June 27, 1997
pages: 3, including cover sheet.

Weekly are the drilling reports for the referenced well.

Let me know if you need anything additional.

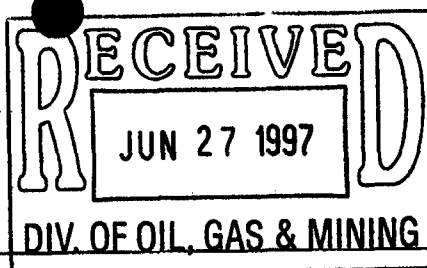
Sharon

From the desk of...

Sharon Orr

McInay & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473-1218



Daily Drilling Report
Petril Exploration, LLC

Knockando #2 Re-drill, UTU-043651
Page 7

6/21/97

PBTD: 5146' FM: Ismay Perfs: Open
Csg: 5 1/2", 15.5# Tbg: 2 3/8" Jts. in Well: 156 Pkr. @ 4862.95'
SI: 14 Hrs. SITP: 0 psig SICP: 0 psig FL @ 2500' - 2300' or 9.2 Bbls. Fill
Swab: Rec. = 19.0 BTF. - 99.9% Gassy Polymer mud and trace of oil

Details:

Tubing and casing were both dead. Rigged up to swab and swabbed well down. Recovered approx. 19 Bbls. of polymer mud w/show of oil and gas. Released packer. Nipped up BOP. Rigged up pump and tank and filled tubing with 20 Bbls. produced water from Knockdhu #2. Shut well in and shut down for weekend. Will trip tubing for anchor catcher on Monday. Coiled tubing acid job scheduled w/Dowell for Tuesday.

Run	FL	Swab Depth	BTF	BO	BW	% OIL	% WTR	% BS	Remarks
1	2500	3950	≈5.5	0	5.5	Tr	100		Polymer mud, show oil & gas
2	2500	3950	≈5.5	0	5.5	Tr	100		Polymer mud, show oil & gas
3	2600? Gassy	4400	≈6.0	0	6.0	Tr	100		Polymer mud, gassy, some oil, flowed ½ Hr. & died.
4	1980? Gassy	SN4860 ?	≈2.0	0	2.0	Tr	100		Polymer mud, gassy, show oil, small amount of gas flow after swab.
5	Scattered	SN	0.00	0	0.0	0	0		No fluid recovered
6		SN	0.00	0	0.0	0	0		No fluid recovered
	Totals		≈19.0	0		Tr			No free water

6/22/97

Shut down for Sunday.

6/23/97

PBTD: 5146' FM: Ismay Perfs: Open
Csg: 5 1/2", 15.5# Tbg: 2 3/8" Jts. in Well: 155 Pkr. @ 4803.49'
SI: 39 Hrs. SITP: 0 psig SICP: 0 psig FL @ Surface hole had been filled or Bbl. of fill up.

Details:

Tubing and casing were both dead. POH with 2 3/8" tubing and packer. LD packer and RIH with wireline entry guide, 1 joint of tubing, pump seating nipple, 1 joint of tubing. Anchor/Catcher with 12,000 lbs. tension. NU tubing head. SWI SDFN. Will RU Dowell Coiled Tubing Unit in a.m. and clean out well to minimum of 5670' KB, driller's MD.

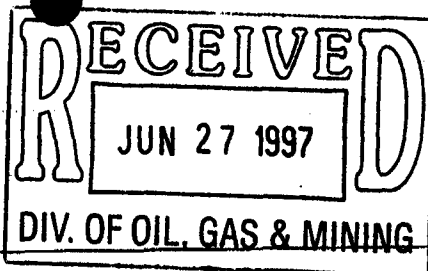
Tubing Detail:

1 ea	2 3/8" Wireline Entry Guide	0.50'
1 joint	2 3/8", 4.7#/ft., J-55, 8R, EUE tubing	31.33'
1 ea	2 3/8" API Pump Seating Nipple	1.10'
1 joint	2 3/8", 4.7#/ft., J-55, 8R, EUE tubing	31.50'
1 ea	2 3/8" x 5 1/2" Baker Anchor/Catcher	2.78'
153 joints	2 3/8", 4.7#/ft., J-55, 8R, EUE tubing	4793.49'
Total string		4860.70'
		+10.00'
	Below KB	
	Tubing landed @	4870.70' KB
	Seat Nipple @	4837.77' KB
	Anchor/Catcher	4803.49' KB

Dowell informed Ken Kidneigh late Monday p.m. would not have equipment available to do acid job until Wednesday a.m.

6/24/97

PBTD: 5146' FM: Ismay Perfs: Open Hole
Csg: 5 1/2", 15.5# Tbg: 2 3/8" Jts. in Well: 155
SI: 15 Hrs. SITP: 0 psig SICP: 0 psig



Daily Drilling Report
Petal Exploration, LLC

Knockando #2 Re-drill, UTU-043651
Page 8

6/24/97

Details:

Tubing and casing were both dead. RU Dowell Coiled Tubing Unit. Attached 90° wash nozzle to tubing, 1 jet out the center others arranged around circumference at 90° to the tubing. NU BOPs and pressure tested to 3000 psig against tubing master valve, OK. RIH with coiled tubing, passed through seat nipple at approximately 4840' MD. Slid past whipstock at approximately 5005' MD. RIH to 5198' MD and hit either a bridge or a ledge. Worked the tubing for 2 hours while pumping at 2 bpm and 50 psig wellhead pressure. No increase in pump pressure while weight on bottom. Could not work tubing past 5198'. Marked the tubing with paint. POH and changed the nozzle to a 45° wash nozzle with a long taper and 1 jet out the end. Other jets arranged around the 45° face. RIH and tagged at same place. Worked the tubing and finally worked through and were free. RIH to TD. Indicated TD 5800' MD. Additional indicated depth is probably due to tubing buckling in the horizontal portion of the well (like pushing a rope). Circulated for 1 hour. Small bubble of gas, not much cuttings, etc. POH to 5150' MD. RIH to 5198' MD and hit obstruction, had to work through. The obstruction acts more like a ledge than a bridge, i.e. no extra drag either up or down after passing it and no increase in pump pressure while setting tubing weight on it. POH with coiled tubing. SWI and SDFN. Will acidize in a.m. using 45° wash nozzle instead of 90° wash nozzle due to difficulty of getting the tubing past the obstruction at 5198' MD.

6/25/97

PBTD: 5146' FM: Ismay Perfs: Open Hole
Csg: 5 1/2", 15.5# Tbg: 2 3/8" Jts. in Well: 155
SI: 15 Hrs. SITP: 0 psig SICP: 0 psig

Details:

Tubing and casing both dead. Held safety meeting. RIH with coiled tubing while circulating the well. Worked past obstruction at 5198' MD. Set the end of the tubing at 5660' MD. Spotted 15% HCl with 1 gpt J321 Friction Reducer, 2 gpt A261 Corrosion Inhibitor, 15 gpt U42 Iron Control, 5 gpt F75N Non-Emulsifier. Treated the well as follows while holding a maximum of 1740 psig on the wellhead.

Interval (MD)	Quantity	Rate (bpm)	Avg. Press.	Comments
5660' - 5651'	20 gal/ft.	0.00 - 0.27	1750 psig	Released pressure and pumped 1 barrel of acid out of the end of the tubing.
5651' - 5480'	20 gal/ft.	0.28 - 1.20	1200-1750 psig	Dragging tubing while acidizing
5480' - 5330'	40 gal/ft.	1.17 - 1.37	1134-1389 psig	Dragging tubing and washing formation while acidizing.
Total Acid Load	229.5 bbls			Displaced to end of tubing with 21.5 bbls. brine water.
Tubing, annulus, hole capacity	307.06 bbls.			
Total fluid load	558.06 bbls.			

ISIP 1386 psig. 15 min. SIP 1194 psig. Started flowing the well back up the annulus. Well unloaded in 45 min. and started flowing oil and gas from annulus at constant 30 psig on 48/64" choke. POH with coiled tubing. Blew coiled tubing dry with N₂. RD Dowell. Switched to tubing with flowline. Made 2 swab runs to 1500' and the well kicked off. Started flow testing through the production unit at 5:00 p.m. Adjusted choke opening and flow rate until 7:00 p.m. Turned well over to flow tester at 7:00 p.m. Flowing water, oil and gas. FTP 450 psig on 10/64" choke. See flow test report.

PBTD: 5146' FMN: Ismay
Csg Size/15.5#: 5.5/15.5#

Perfs: Open Hole
Tbg Size: 2 3/8" Jts in Well: 155

Details:

Flowing tubing pressure decreased to 0 psig at 7:00 a.m., flowing casing pressure 800 psig. Bypassed treater and flowed to tank. Well kicked off. Flowed well directly to tank while cleaning out and adjusting test treater. Foreign matter was plugging off the water courses inside the treater. Worked on treater from 10:00 a.m. until 4:00 p.m. Replaced back pressure valve. Resumed steady flow testing about 4:00 p.m. Flow tested well all night. See attached flow test report. Holding 65 psig back pressure on treater to simulate actual line pressures. Estimate less than 100 bbls. of load remaining to be recovered. Will release Big "A" this a.m.

facsimile

TRANSMITTAL

file

to: State of Utah, Division of Oil, Gas & Mining
fax #: (801) 359-3940
re: Petral Exploration, LLC, #2 Knockando Unit, UTU-043651
NW NE SW Sec. 19-T37S-R25E, San Juan Co., UT
date: July 11, 1997
pages: 4, including cover sheet.

Weekly are the drilling reports for the referenced well.

Let me know if you need anything additional.

Sharon

From the desk of...

Sharon Orr

McIlnay & Associates, Inc.
2305 Oxford Lane
Casper, WY 82604

307 265-4351
Fax: 307 473-1218

Daily Drilling Report
Petal Exploration, LLC

Knockando #2 Re-drill, UTU-043651

Page 9

6/25/97

PBTD: 5146' FM: Ismay
Csg: 5 1/2", 15.5# Tbg: 2 3/8"
SI: 15 Hrs. SITP: 0 psig

Perfs: Open Hole
Jts. in Well: 155
SICP: 0 psig

Details:

Tubing and casing both dead. Held safety meeting. RIH with coiled tubing while circulating the well. Worked past obstruction at 5198' MD. Set the end of the tubing at 5660' MD. Spotted 15% HCl with 1 gpt J321 Friction Reducer, 2 gpt A261 Corrosion Inhibitor, 15 gpt U42 Iron Control, 5 gpt F75N Non-Emulsifier. Treated the well as follows while holding a maximum of 1740 psig on the wellhead.

Interval (MD)	Quantity	Rate (bpm)	Avg. Press.	Comments
5660' - 5651'	20 gal/ft.	0.00 - 0.27	1750 psig	Released pressure and pumped 1 barrel of acid out of the end of the tubing.
5651' - 5480'	20 gal/ft.	0.28 - 1.20	1200-1750 psig	Dragging tubing while acidizing
5480' - 5330'	40 gal/ft.	1.17 - 1.37	1134-1389 psig	Dragging tubing and washing formation while acidizing.
Total Acid Load	229.5 bbls			Displaced to end of tubing with 21.5 bbls. brine water.
Tubing, annulus, hole capacity	307.06 bbls.			
Total fluid load	558.06 bbls.			

ISIP 1386 psig. 15 min. SIP 1194 psig. Started flowing the well back up the annulus. Well unloaded in 45 min. and started flowing oil and gas from annulus at constant 30 psig on 48/64" choke. POH with coiled tubing. Blew coiled tubing dry with N₂. RD Dowell. Switched to tubing with flowline. Made 2 swab runs to 1500' and the well kicked off. Started flow testing through the production unit at 5:00 p.m. Adjusted choke opening and flow rate until 7:00 p.m. Turned well over to flow tester at 7:00 p.m. Flowing water, oil and gas. FTP 450 psig on 10/64" choke. See flow test report.

6/26/97

PBTD: 5146' FMN: Ismay
Csg Size/15.5#: 5.5/15.5#

Perfs: Open Hole
Tbg Size: 2 3/8" Jts in Well: 155

Details:

Flowing tubing pressure decreased to 0 psig at 7:00 a.m., flowing casing pressure 800 psig. Bypassed treater and flowed to tank. Well kicked off. Flowed well directly to tank while cleaning out and adjusting test treater. Foreign matter was plugging off the water courses inside the treater. Worked on treater from 10:00 a.m. until 4:00 p.m. Replaced back pressure valve. Resumed steady flow testing about 4:00 p.m. Flow tested well all night. See attached flow test report. Holding 65 psig back pressure on treater to simulate actual line pressures. Estimate less than 100 bbls. of load remaining to be recovered. Will release Big "A" this a.m.

6/27/97

PBTD: 5146' FMN: Ismay
Csg Size/15.5#: 5.5/15.5# Tbg Size: 2 3/8"

Perfs: Open Hole
Jts in Well: 155

Details:

Flow testing the well through the test treater. RDMO Big A rig. The well is loading up with water then producing in slugs. Tried several different choke settings in an attempt to get the well to stabilize and flow continuously. Apparently the well is producing enough water to intermittently kill itself. A titration test of the water showed chlorides of approximately 235,000 parts per million (ppm) and a weight of 9.7 lbs./gal. (ppg) which calculates to be 210,000 parts per million salt (NaCl). At 7:00 p.m. the weight was 9.8 ppg

Daily Drilling Report
Petral Exploration, LLC

Knockando #2 Re-drill, UTU-043651
Page 10

which calculates to be 230,000 parts per million salt. The same weight, 9.8 ppg, was measures at 3:00 a.m. The drilling and completion fluids had chloride contents of approximately 35,000 - 50,000 ppm chlorides and weighed 8.8 - 9.0 ppg. Based on the chloride content and weight the produced water is probably formation water.

Total water recovered in tanks to date is 398.8 bbls. plus the water flowed to the pit immediately after the acid treatment, approximately 100 bbls. makes a total water recovery of about 498.8 bbls. This is very close to the total load of 558 bbls.

Total recovery for the day was 28.6 BO (42%) 38.8 BW (58%). Average gas rate was 68.42 mcf/d. These rates would be improved with the artificial lift. It is too early in production to determine if the water cut will increase, decrease or remain the same.

6/27/97

PBTD: 5146'

FMN: Ismay

Perfs: Open Hole

Csg Size/15.5#: 5.5/15.5#

Tbg Size: 2 3/8"

Jts in Well: 155

Details:

Flow tested the well through the test treater. The well loaded up with water then died. Tried several times blowing the well down in an attempt to get the well to stabilize and flow continuously. The well would unload some oil, gas and water after being shut in for 1 to 2 hours but would die in 10 to 15 minutes. The water is very heavy, 9.8 ppg. Released tester after trying to unload the well with no success until 1:30 p.m. See attached flow report. Caught 1 gallon water sample and will take to Casper for analysis. Shut the well in. Waiting on production facilities.

Made arrangements with Triad Constructors to start building the production facilities on Monday. Made several calls to vendors seeking a used pumping unit. Ordered pump and rods from Trico. CE Natco will deliver the production unit on Tuesday.

6/28/97

Well SI Sunday 6/29/97. Will start building production facilities 6/30/97.

7/1/97

Building production facilities.

7/2/97

Constructing production facilities. Taking quotes on pumping unit. Hope to have well on production by 7/7/97.

7/3/97

Finished setting 2-300 Bbl. tanks. Set production unit. Running and burying flow lines. Setting motor run. Have purchased pumping unit as we were unable to lease one. Unit is Lufkin 320-213-120 with Ajax engine (90 day warranty). \$28,300 plus freight estimated \$1,500, plus porta base. Finishing production equipment hook up.

Big "A" pulling unit moving to well 7/7/97 p.m. to run pump and rods. Pumping unit scheduled to be delivered 7/8/97. With no problems should have on production 7/9/97.

7/8/97

SICP 800 psig.

Big "A" pulling unit did not finish job they were on and will not move to Knockando #2 until 10 a.m. 7/8/97.

7/9/97

SITP 500 psig, SICP 900 psig.

Blew tubing and casing down until fluid at surface. Laid line to 400 Bbl. tank. Flowed well to tank. Well flowed intermitting for 2 1/2 hours. Well head cuts indicated 50% saltwater and 50% oil, highly gas cut. Recovered total of 18 BTF. Unable to measure gas volume. Built berm around 2 ends of production tank area. Hooked up flare line to pit from production unit. SWIFN @ 5 p.m. Big "A" did not finish up job they are currently on. As of 7/9/97 a.m. they are planning on being on Knockando #2 location at 12 p.m.

Daily Drilling Report
 Petral Exploration, LLC

Knockando #2 Re-drill, UTU-043651
 Page 11

7/10/97

Tubing 250 psig, Casing 250 psig. Blew well down, no fluid recovery.

Met truck hauling pumping unit in Blanding and led to location. Unloaded 320 pumping unit. Built gravel pad for pumping unit and base. Unloaded cement pad. Set and leveled same. Set pumping unit and aligned to wellhead. Unloaded 500 bbl. produced water tank. Set same in place. Finished berm around tank. Moved in and rigged up Big "A" Well Service. Nipple down wellhead. Released anchor catcher. Strip on and nipple up BOP. Close pipe rams and valve on tubing. SWIFN @ 5:30 p.m. Production equipment 90% installed.

7/11/97

PBTD: 5146'

FMN: Ismay

Perfs: Open Hole

Csg Size/15.5#: 5.5/15.5#

Tbg Size: 2 3/8"

Jts in Well: 155

12 Hrs. SI

SITP: 150 psig

SICP: 150 psig

PKR/AC @ 4806'

Details:

Tubing 150 psig, Casing 150 psig. Pump 10 Bbls. produced water down tubing, 40 Bbls. down casing annulus (well dead). TOH with tubing. RIH with production tubing (see details). Nipple down BOP. Set AC. Installed tubing donut and landed tubing with 14,000# in tension. Ran pump and rods. Checked pump with diesel. Spaced out and seated pump. Built mufflers for Ajax engine. Moved Ajax and aligned belts to gear box sheave. Clean bottom of water tank and coated same with tar. Put weights on unit. Hooked up gas line. SWIFN.

Pump Description: RWAC 2" x 1 1/2" x 18', cup type, max stroke - 147" with spray metal plugger, valves, alloy carbid.

Rods: 128 - 3/4" x 25' rods and 63 - 7/8" x 25', 1 - 2' x 7/8" pony and 1 1/2" x 26' polish rod.

Tubing Detail

1	Bull Plug with 1 1/2" hole in bottom of bull plug	0.63'
1	Jl. 2 3/8" 4.7#/ft., J-55 Tubing	31.31'
1	2 3/8" Perforated Sub	4.01'
1	Seating Nipple	1.10'
1	Jt. 2 3/8", 4.7#/ft., J-55 Tubing	31.50'
1	Anchor/Catcher	2.78'
153	Jts. 2 3/8", 4.7#/ft., J-55 Tubing	4793.49'
	Total String	4864.88'
	Below KB	+10.00'
	Tubing set at	4874.88' KB
	Seating Nipple set at	4838.93' KB
	Anchor Catcher set at	4806.33' KB
	Mud Anchor set at	4874.88' KB

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.
2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

CONFIDENTIAL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other First production

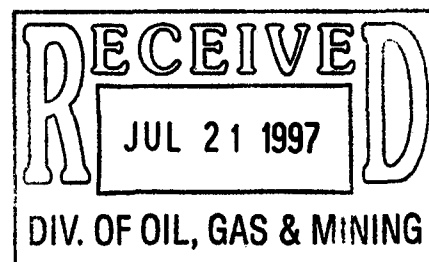
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

REPORT OF FIRST PRODUCTION

Well was put on production July 12, 1997



14. I hereby certify that the foregoing is true and correct

Signed [Signature]
(This space for Federal or State office use)

McIlnay & Associates, Inc.

Title Consulting Engineers

Date July 15, 1997

Approved by _____
Conditions of approval, if any:

Title _____

Date _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Designation and Serial No. UTU-075897
2. Name of Operator Petral Exploration, LLC	6. If Indian, Allottee or Tribe Name NA
3. Address and Telephone No. c/o McIlnay & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604	7. If Unit or CA, Agreement Designation NA
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc. BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)	8. Well Name and No. Knockando #2
	9. API Well No. 43-037-31780
	10. Field and Pool, or Exploratory Area Wildcat
	11. County or Parish, State San Juan, UT

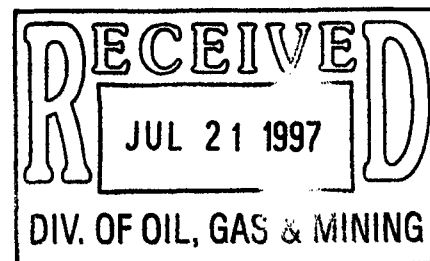
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is proposed to dispose of produced water from this well by trucking from the well to the Cochrane Resources, Inc., Tin Cup Mesa #1-25 Injection well, SW NE Sec. 25-T38S-R25E, San Juan Co., UT, Lease UTU-31928. The water will be injected into the Ismay Formation in conjunction with the other waters being injected as part of the ongoing waterflood operation. Cochrane Resources, Inc. has a waterflood permit on file with the district BLM office.



14. I hereby certify that the foregoing is true and correct

Signed Dei Gudim Title McIlnay & Associates, Inc. Consulting Engineers Date July 15, 1997
(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

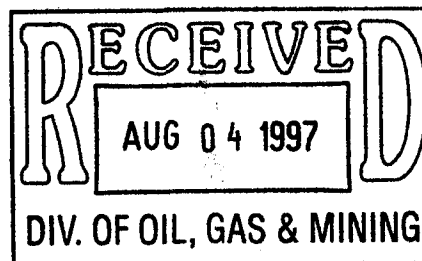
TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Extend flaring of gas
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Petral Exploration, LLC requests permission to flare produced gas from this well for an additional 30 days (until September 10, 1997) or up to a maximum cumulative gas production of 50 mmcf. The well is still being evaluated for commercial production. Gas production through 7/29/97 is estimated at approximately 1.7 mmcf. Attached is a production history for the well and an estimate of the cost to install a sales gas line.



14. I hereby certify that the foregoing is true and correct

Signed [Signature]

McIlnay & Associates, Inc.

Title Consulting Engineers

Date 7/30/97

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

COST ESTIMATE
#2 Knockando
Installation of Gas Sales Line

Item		Cost \$	Capitalized
Engineering & Administration, office		\$ 1,500	
Archeology		\$ 710	
Survey		\$ 615	
Administration & Engineering, Field		\$ 3,250	
Line Pipe <u>Used 2 7/8", 11,000' at \$1.95/ft.</u>	(Karst)	\$ 17,600	\$ 17,600
Pig Launcher & Receiver Materials		\$ 5,000	\$ 5,000
Pig Launcher & Receiver fabrication & tie-in	(Triad Constructors)	\$ 3,385	\$ 3,385
Equipment and Labor to install line	(Triad Constructors)	\$ 21,450	
Taxes, 5%		\$ 2,676	\$ 1,299
Miscellaneous & Contingency, 10%		\$ 5,619	\$ 2,728
		<u>\$ 61,804</u>	<u>\$ 30,013</u>

It is recognized that the amounts herein are estimates only and approval of this authorization shall extend to the actual costs incurred in conducting the operation specified, whether more or less than those herein set out by this cost estimate.

DISTRIBUTION

OWNER	% WI		
Questar	25.00	\$ 15,451	\$ 7,503
Petral Exploration, LLC	75.00	\$ 46,353	\$ 22,510
		TOTAL	\$ 61,804 \$ 30,013

APPROVAL

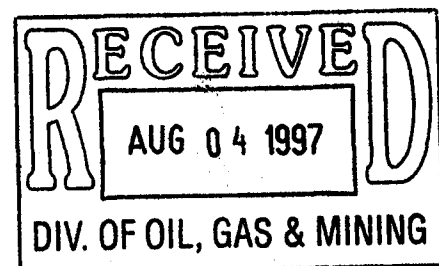
Questar

Signature & Title

Petral Exploration, LLC:

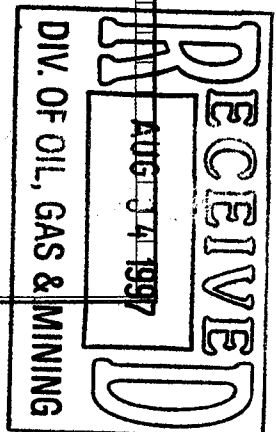
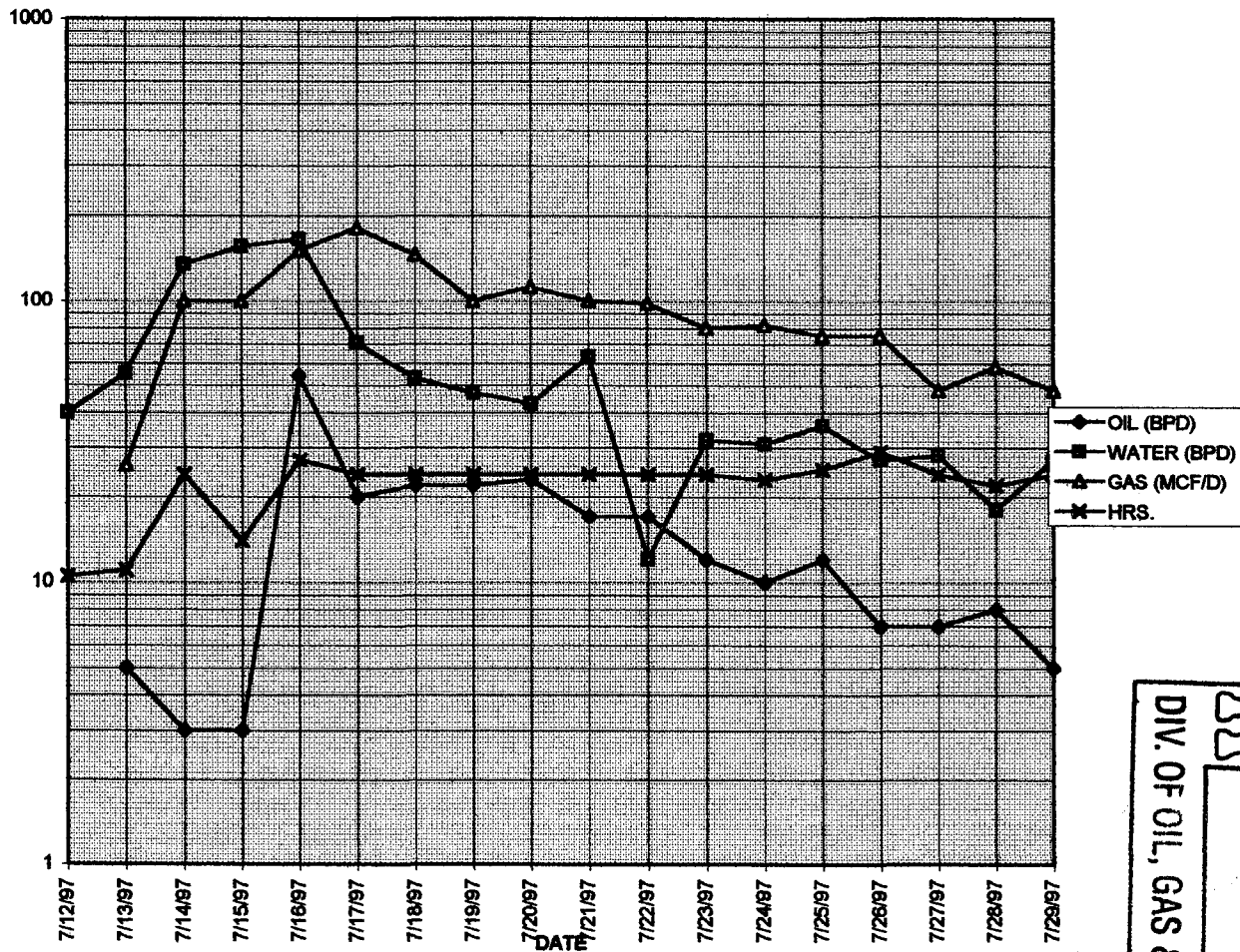
Signature & Title

Unless notified to the contrary, each Non-Operator will be covered by the Operator's Extra Expense Insurance (including costs of Well Control, Redrilling and Pollution Liability with a limit of \$30,000,000 and a \$100,000 deductible per occurrence (for 100% interest). This limit and deductible are proportionately scaled to the percentage interest. The Non-Operator may elect not to be covered by the Operator's Extra Expense Coverage by notifying the Operator and furnishing a Certificate of Insurance and agreeing to maintain such insurance in force at all times in the amount not less than \$500,000 per occurrence.



KNOCKANDO #2 PRODUCTION HISTORY

DATE	OIL (BPD)	WATER (BPD)	GAS (MCF/D)	HRS.						
7/12/97	0	40	0	10.5						
7/13/97	5	55	26	11						
7/14/97	3	135	100	24						
7/15/97	3	156	100	14						
7/16/97	54	165	151	27						
7/17/97	20	71	182	24						
7/18/97	22	53	146	24						
7/19/97	22	47	100	24						
7/20/97	23	43	112	24						
7/21/97	17	63	100	24						
7/22/97	17	12	98	24						
7/23/97	12	32	80	24						
7/24/97	10	31	82	23						
7/25/97	12	36	75	25						
7/26/97	7	27	75	29						
7/27/97	7	28	48	24						
7/28/97	8	18	58	22						
7/29/97	5	27	48	24						



CONFIDENTIAL**S T A R**REPORT NO.
142661

PAGE NO. 1

TEST DATE:
17-OCT-1996

Schlumberger Transient Analysis Report
Based on Model Verified Interpretation
Of a Schlumberger Well Test

Schlumberger

COMPANY: PETRAL EXPLORATION

WELL: KNOCKANDO #2 - DST #1

TEST IDENTIFICATION

Test Type OH-DST
Test No. ONE
Formation ISMAY
Test Interval (ft) 5146 to 5206
Depth Reference KELLY BUSHING

WELL LOCATION

Field WILD CAT
County SAN JUAN
State UTAH

HOLE CONDITIONS

Hole Size (in) 7.875
Tested Interval/Net Pay (ft) .. 60 / 75

MUD PROPERTIES

Mud Type GEL CHEM
Mud Weight (lb/gal) 9.7
Filtrate Resistivity (ohm.m) .. 1.742 @ 32F
Filtrate Chlorides (ppm) 5900

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi) 2637
Gas Cushion Type NONE
Surface Pressure (psi) --
Liquid Cushion Type NONE
Cushion Length (ft) --

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in) ... -- / 3.82
Collar Length (ft)/I.D. (in) .. -- / 2.00
Packer Depth (ft) 5146
Bottomhole Choke Size (in) ... 0.94
Gauge Depth (ft)/Type 5122 / ELEC.

NET PIPE RECOVERY

Volume	Fluid Type	Properties
24 bbl	O&G CUT MUD	
	SAMPLE: TOP	Rw0.195@70F 35000ppm
	MIDDLE	Rw0.085@70F 90000ppm
	BOTTOM	Rw0.264@70F 25000ppm

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
0.50 cuft	Gas	
20 cc	Oil	
1790 cc	Water	Rw0.055@70F 160Kppm
Pressure: 1120 GOR: GLR:		

INTERPRETATION RESULTS

Model of Behavior HOMOGENEOUS
Fluid Type Used for Analysis.. GAS
Reservoir Pressure (psi) 2467 @ 5122 Ft
Transmissibility (md.ft/cp) .. 3.17
Effective Permeability (md) .. 0.0008 (to Gas)
Skin Factor 0.6
Radius of Investigation (ft) .. 5

ROCK/FLUID/WELLBORE PROPERTIES

Gas Gravity 0.65
Liquid/Gas Ratio (STB/MMSCF) . 0 ASSUMED
Water Cut (%) 100
Viscosity (cp) 0.01821
Total Compressibility (1/psi). 2.028E-04
Porosity (%) 12
Reservoir Temperature (F) 129

Gradient 0.482 lb/ft

PRODUCTION RATE DURING TEST: 12 MCF/D = Q-Last

COMMENTS:

DST #1 WAS MECHANICALLY SUCCESSFUL. GAS FLOWED TO SURFACE DURING THE TEST, AND MUD, OIL AND WATER FLOWED INTO THE DRILLSTRING. ANALYSIS OF THE FINAL SHUT-IN'S DIAGNOSTIC LOG-LOG PLOT OF PRESSURE AND DERIVATIVE INDICATES THE PRESENCE OF A HOMOGENEOUS SYSTEM WITH DECREASING WELLBORE STORAGE EFFECTS AT EARLY TIME, TRANSITIONAL FLOW REGIME AND INFINITE ACTING RADIAL FLOW AT MID TO LATE TIMES. THE BUILDUP WAS MATCHED USING A HOMOGENEOUS, SKIN AND CHANGING WELLBORE STORAGE RESERVOIR MODEL (SEE ANALYSIS RESULTS AND PLOTS, PAGES 2-6). BASED ON THE MATCH, THE TESTED INTERVAL HAS THE CHARACTERISTICS OF VERY LOW EFFECTIVE PERMEABILITY TO GAS AND A NON-DAMAGED WELLBORE CONDITION AT THE TIME OF THE TEST. FOR QUESTIONS ABOUT THIS REPORT, PLEASE CONTACT DEBORA HALLFORD AT (303) 843-9090.

REPORT NO.
142661

PAGE NO. 2

CALCULATIONS
GAS WELL
LOG-LOG ANALYSIS

Schlumberger

LOG $\Delta M(P)$ VS. LOG ΔT PLOT

HOMOGENEOUS, INFINITE SYSTEM
SKIN AND DECREASING WELLBORE STORAGE
PD VS. TD/CD

DATA IDENTIFICATION

FLOW PERIOD = 9. BUILDUP
 $M(P) = 3.338E+07 \text{ PSI}^2/\text{CP}$ @ $\Delta T=0$
FLOW RATE CHANGE = 12.000 MSCF/D

TYPE-CURVE MATCH

CURVE MATCH, $CD \cdot E(2S) = 0.2857$
PRESSURE MATCH, $PD/\Delta M(P) = 5.752E-09 \text{ 1/ (PSI}^2/\text{CP)}$
TIME MATCH, $(TD/CD)/\Delta T = 48.355 \text{ 1/HR}$

CALCULATIONS

KH 0.05780 MD.FT
KH/MU 3.174 MD.FT/CP
K $7.707E-04 \text{ MD}$
C $1.936E-05 \text{ BBL/PSI}$
CD 0.08805
SKIN, S 0.5885
RADIUS OF INVESTIGATION ... 5.218 FT @ 18.62 HRI

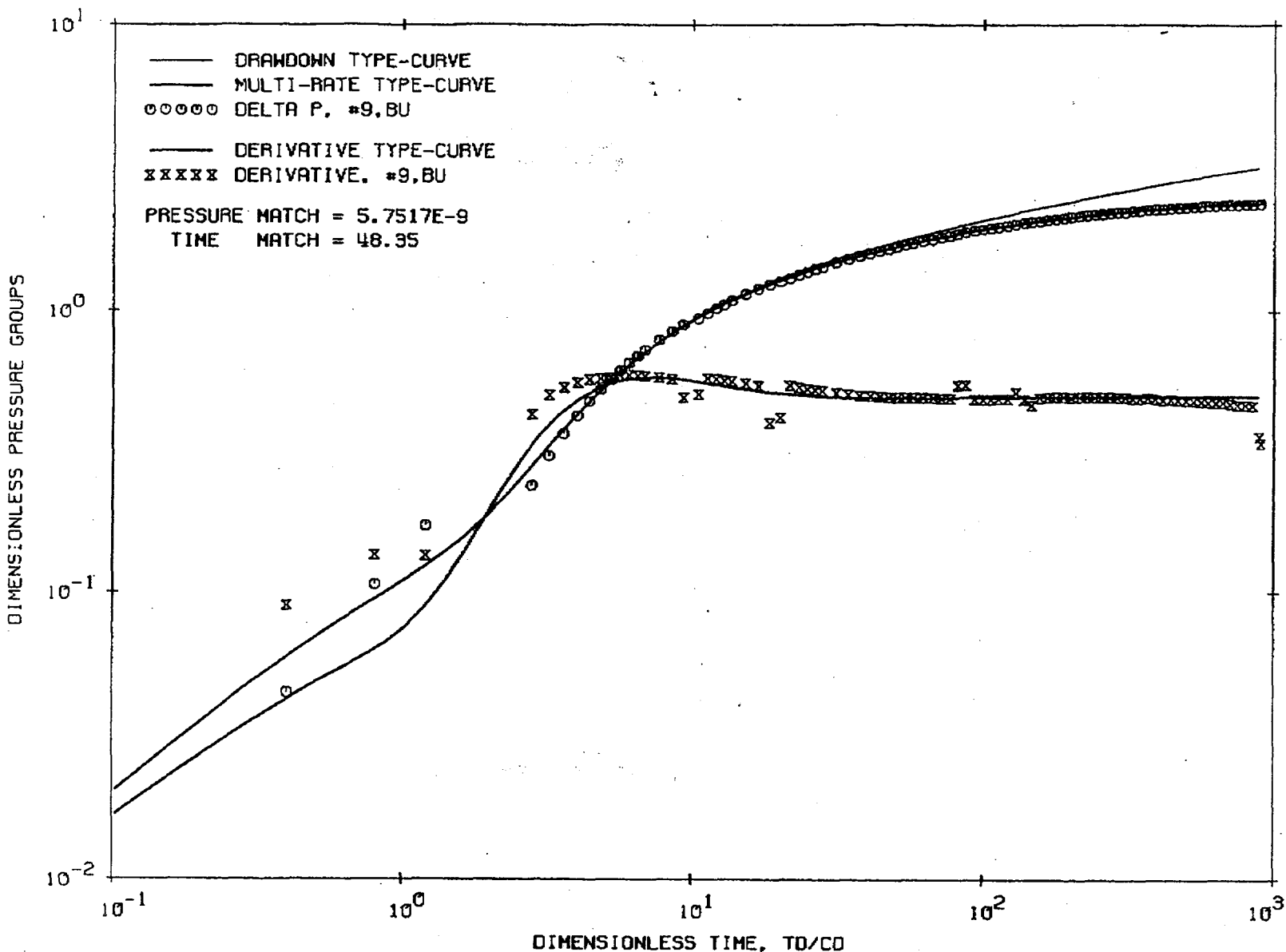
COMMENTS

USING HOMOGENEOUS, INFINITE SYSTEM RESERVOIR MODEL WITH
SKIN AND DECREASING WELLBORE STORAGE ;
 $C_a/C=2.63$ $C_oD=2.50$

REPORT NO.
142661
PAGE NO. 3

DIMENSIONLESS MULTI-RATE
PLOT: LOG-LOG MATCH FOR
*9.BU

Schlumberger

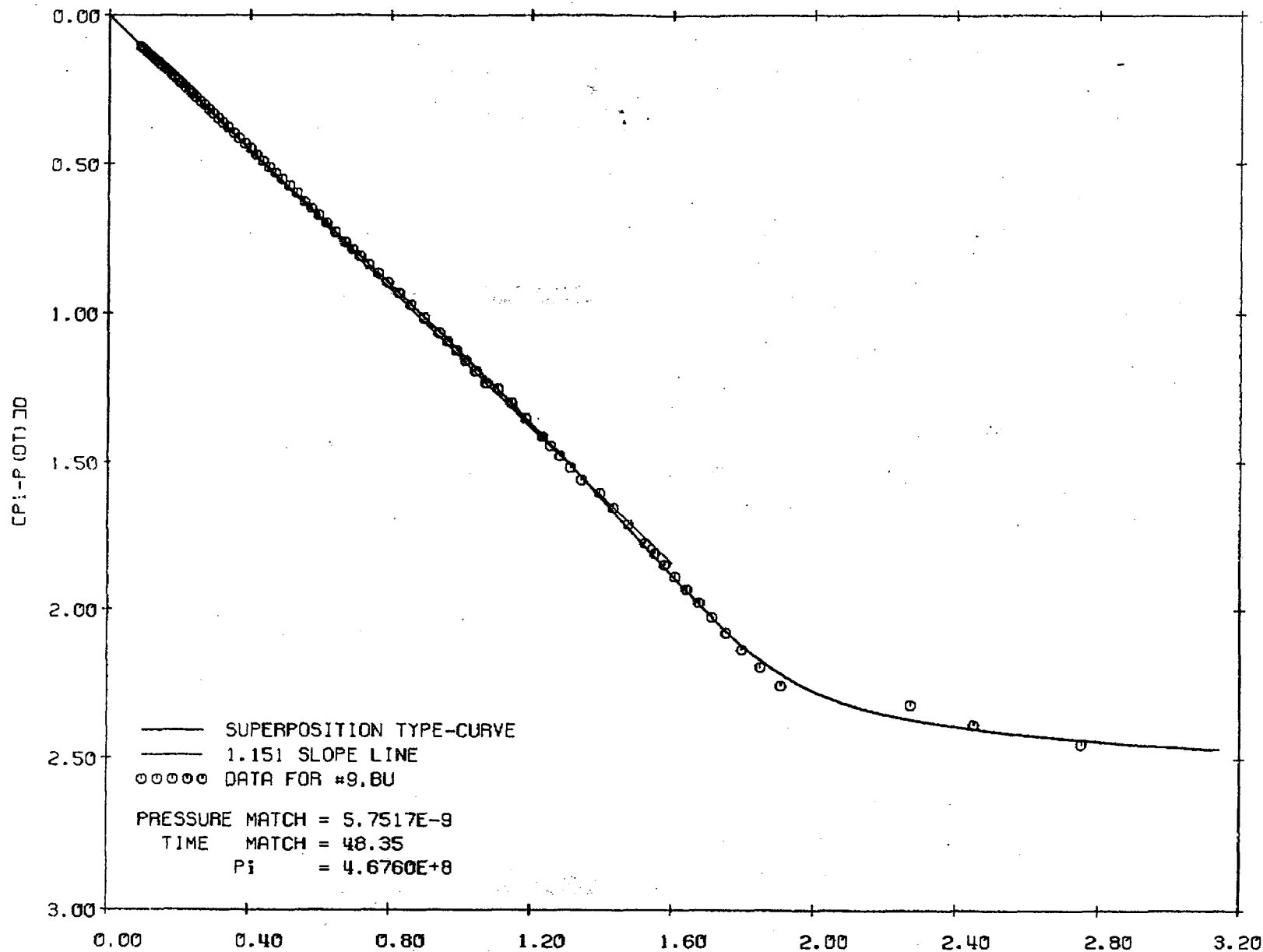


TYPE-CURVE : HOMOGENEOUS SYSTEM, DECREASING WELLBORE STORAGE
CD=E (2S)=2.86E-1 CaD/CD=2.63 CoD=2.50

REPORT NO.
142661
PAGE NO. 4

DIMENSIONLESS SUPERPOSITION
PLOT FOR
#9.BU

Schlumberger



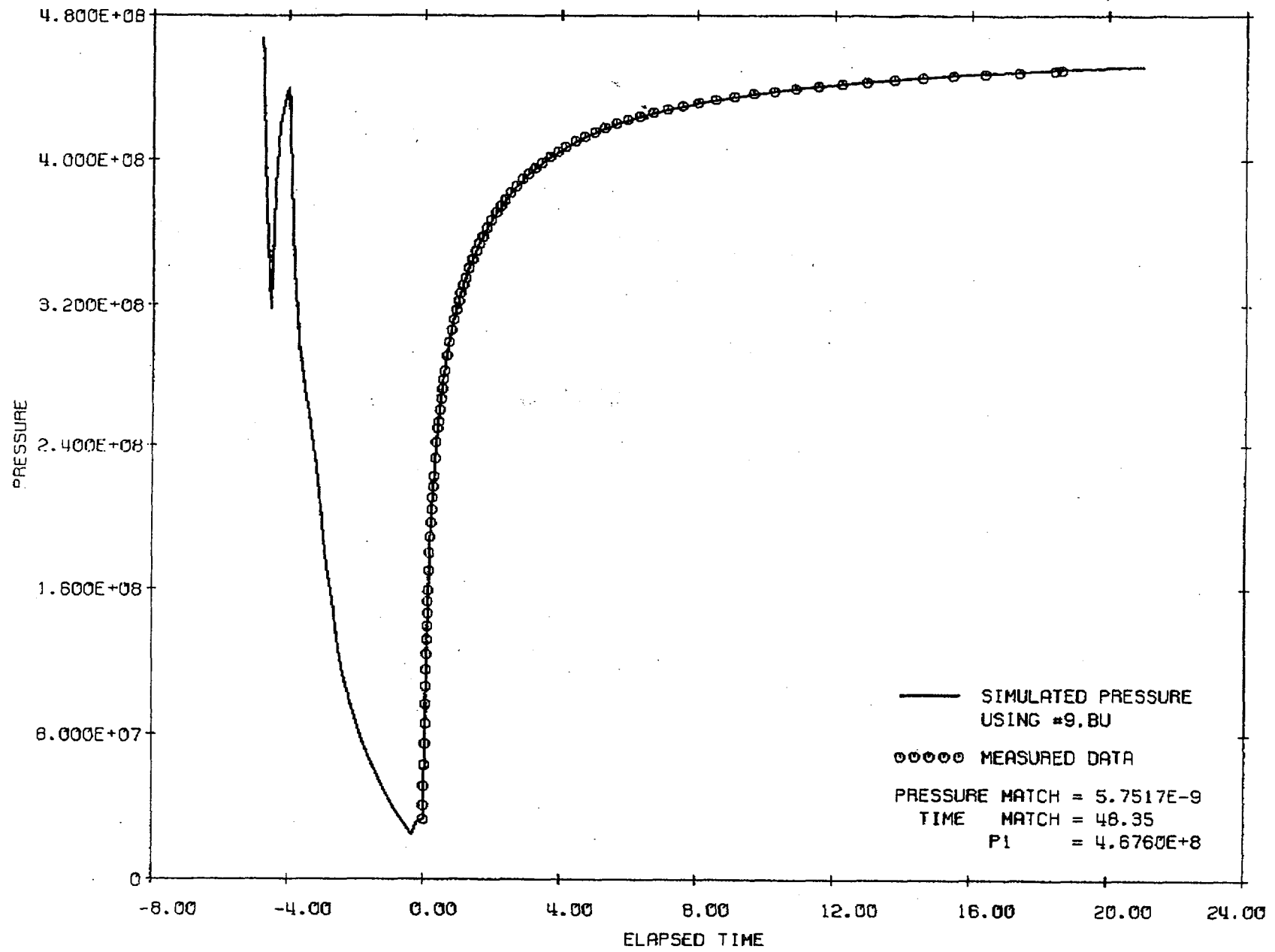
SUPER. FUNCTION/ABSCQ (N-1) - Q (N)]
TYPE-CURVE : HOMOGENEOUS SYSTEM, DECREASING WELLBORE STORAGE
CD*E (2S) = 2.86E-1 C_oD/CD = 2.63 C_oD = 2.50

REPORT NO.
142661

PAGE NO. 5

**PRESSURE HISTORY MATCH
SIMULATION**

Schlumberger



TYPE-CURVE : HOMOGENEOUS SYSTEM, DECREASING WELLBORE STORAGE
 $CD \times E(2S) = 2.86E-1$ $CaD/CD = 2.63$ $CoD = 2.50$

REPORT NO.
142661

PAGE NO. 6

FLOWRATE DATA
USED IN ANALYSIS
KNOCKANDO #2 - DST #1

Schlumberger

Page 1 of 1

ET VS. FLOWRATE

USING CALCULATED SURFACE FLOWRATES BASED ON REPORTED SURF.PRESR.
PETRAL EXPLORATION - KNOCKANDO #2 - DST #1 - 10/17/96

	ET (hrs) PRIOR TO BUILDUP	GAS FLOWRATE (MSCF/D)
1	-4.7833	10.000
2	-4.5333	0.00000E-01
3	-4.0000	9.0000
4	-3.3333	10.000
5	-3.1666	11.000
6	-3.0000	12.000
7	-2.6666	13.000
8	-0.33330	12.000
9	0.00000E-01	0.00000E-01

ANY INTERPRETATIONS OR RECOMMENDATIONS ARE OPINIONS AND NECESSARILY BASED ON INFERENCES AND EMPIRICAL FACTORS AND ASSUMPTIONS, WHICH ARE NOT INFALLIBLE. ACCORDINGLY, SCHLUMBERGER - GEOQUEST CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION OR MEASUREMENT. UNDER NO CIRCUMSTANCES SHOULD ANY INTERPRETATION OR MEASUREMENT BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT OR PRODUCTION DECISION OR ANY PROCEDURE INVOLVING RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION, WELL TREATMENT, AND PRODUCTION PROCEDURES, AND ALL OTHER ACTIVITIES RELATING TO THE DRILLING OR PRODUCTION OPERATION.

REPORT NO.
142661

PAGE NO. 7

MODEL-VERIFIED (t_m) REPORT

Schlumberger

THIS IS SCHLUMBERGER'S MODEL-VERIFIED (t_m) INTERPRETATION REPORT. WITH MODEL-VERIFIED (t_m) INTERPRETATION, THE GOAL OF THE SCHLUMBERGER ANALYST IS TO CONSTRUCT A TOTAL SYSTEM RESERVOIR MODEL THAT MATCHES ALL OF YOUR WELL TEST DATA. THIS PROVIDES YOU WITH RELIABLE ANSWERS THAT YOU CAN HAVE CONFIDENCE IN.

FROM THE DIAGNOSTIC LOG-LOG PLOT OF PRESSURE AND PRESSURE DERIVATIVE, THE SCHLUMBERGER ANALYST IDENTIFIES THE FLOW REGIMES GOVERNED BY THE INNER BOUNDARY CONDITIONS, BASIC RESERVOIR BEHAVIOR, AND OUTER BOUNDARY CONDITIONS. A RESERVOIR MODEL IS THEN CONSTRUCTED AND THE TEST DATA ARE MATCHED TO IT. IN ORDER TO VERIFY THE QUALITY OF THE MATCH, THE THEORETICAL MODEL RESPONSE (TYPE CURVE) AND THE TEST DATA ARE PLOTTED TOGETHER. THE PRESENTATION OF THE MATCH CAN BE SHOWN IN ANY OF THREE DIFFERENT FORMS.

- 1) LOG-LOG PLOT (DELTA PRESSURE AND DERIVATIVE vs. DELTA TIME)
- 2) SEMI-LOG PLOT (PRESSURE vs. SUPERPOSITION TIME)
- 3) CARTESIAN PLOT (PRESSURE vs. TIME)

SCHLUMBERGER USES SUPERPOSITION TECHNIQUES (MULTI-RATE ANALYSIS) TO ACCOUNT FOR THE WELL'S PRIOR PRODUCTION HISTORY. ESPECIALLY IN CASES WHERE THE PRIOR PRODUCTION IS ERRATIC OR UNUSUAL, SUPERPOSITION IS THE ONLY MEANS OF PROVIDING AN ACCURATE TYPE CURVE MATCH OF THE WELL TEST DATA. FOR GAS WELLS, THE PSEUDO-PRESSURE TECHNIQUE IS USED TO ACCOUNT FOR THE CHANGE IN GAS PROPERTIES WITH CHANGING PRESSURE.

IN SOME INSTANCES, THE WELL TEST DATA WILL NOT BE UNIQUE, I.E., MORE THAN ONE RESERVOIR MODEL WILL MATCH THE TEST DATA. THE MOST APPROPRIATE MODEL CAN BE DETERMINED AS WE WORK WITH YOU AND DISCUSS THE AREA LITHOLOGY AND GEOLOGY.

THE RESERVOIR ANSWERS DERIVED FROM MODEL-VERIFIED (t_m) INTERPRETATION CAN INCLUDE: EFFECTIVE PERMEABILITY (K), SKIN DAMAGE (s), RESERVOIR PRESSURE (P^*), FRACTURE HALF-LENGTH (x_f), FRACTURE CAPACITY (Kfw), BOUNDARY CONDITIONS AND DISTANCE TO BOUNDARIES, AS WELL AS THE MODEL OF BASIC RESERVOIR BEHAVIOR.

USING THE RESERVOIR MODEL DETERMINED BY MODEL-VERIFIED (t_m) INTERPRETATION, FLOWRATE PREDICTIONS CAN BE MADE FOR THE WELL. ADDITIONALLY, WE CAN HELP YOU OPTIMIZE WELL PERFORMANCE BY USING SCHLUMBERGER'S NODAL ANALYSIS SOFTWARE TO EXAMINE THE WELL'S SENSITIVITY TO DIFFERENT COMPLETION DESIGNS (E.G., FRACTURE HALF-LENGTH, TUBING SIZE, WELLHEAD PRESSURE, SKIN VALUE, SHOT DENSITY). THIS AFFORDS YOU THE OPPORTUNITY TO FORECAST PRODUCTION POTENTIAL FOR THE WELL BEFORE MAKING FINAL COMPLETION/RECOMPLETION DECISIONS.

WELL TEST MODELS

Schlumberger

THE SCHLUMBERGER ANALYST CONSTRUCTS THE TOTAL SYSTEM RESERVOIR MODEL THAT BEST MATCHES YOUR TEST DATA BY CHOOSING THE INNER BOUNDARY CONDITION(S), A BASIC RESERVOIR MODEL, AND THE OUTER BOUNDARY CONDITION(S). THESE COMPONENTS ARE PUT TOGETHER INTO ONE RESERVOIR MODEL AND THE TEST DATA IS MATCHED BY ADJUSTING THE MODEL PARAMETERS (e.g., PERMEABILITY AND SKIN) TO OBTAIN THE BEST FIT. THE FOLLOWING IS A PARTIAL LIST OF THE MODEL COMPONENTS AVAILABLE TO THE SCHLUMBERGER ANALYST FOR MATCHING YOUR WELL TEST DATA.

INNER BOUNDARY CONDITION

- NO WELLBORE STORAGE
- CONSTANT WELLBORE STORAGE
- VARIABLE WELLBORE STORAGE
- FINITE CONDUCTIVITY VERTICAL FRACTURE
- INFINITE CONDUCTIVITY VERTICAL FRACTURE
- UNIFORM FLUX VERTICAL FRACTURE
- HORIZONTAL FRACTURE
- PARTIAL PENETRATION

BASIC RESERVOIR MODEL

- HOMOGENEOUS
- DUAL POROSITY, PSEUDO STEADY STATE INTERPOROSITY FLOW
- DUAL POROSITY, TRANSIENT INTERPOROSITY FLOW
- TRIPLE POROSITY
- DUAL PERMEABILITY
- RADIAL COMPOSITE

OUTER BOUNDARY CONDITION

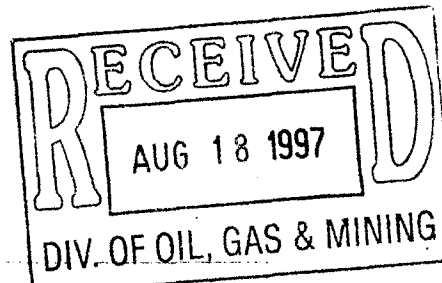
- INFINITE SYSTEM
- SINGLE SEALING NO FLOW BOUNDARY
- PARTIALLY SEALING BOUNDARY
- SINGLE CONSTANT PRESSURE BOUNDARY
- TWO INTERSECTING NO FLOW BOUNDARIES (WEDGE GEOMETRY)
- PARALLEL NO FLOW BOUNDARIES (CHANNEL)
- GAS CAP/BOTTOM WATER DRIVE
- CLOSED (NO FLOW) CIRCLE
- CONSTANT PRESSURE CIRCLE
- CLOSED (NO FLOW) RECTANGLE
- CONSTANT PRESSURE RECTANGLE
- MIXED BOUNDARY RECTANGLE

FOR SOME APPLICATIONS, SUCH AS HORIZONTAL AND LAYERED RESERVOIR TESTS, ALL OF THE POSSIBLE COMBINATIONS ARE NOT AVAILABLE. REFERENCES ON MOST MODEL COMPONENTS CAN BE FOUND IN SPE PAPERS.

SEQUENCE OF EVENTS

Schlumberger

DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
17-OCT	06:58	HYDROSTATIC MUD-SET PACKER	-2	2637	
	07:00	START FLOW	0	127	
	07:01	BLOW-BOTTOM OF BUCKET	1		
	07:05		5		10.0
	07:14		14		15.0
	07:15	END FLOW & START SHUT-IN	15	207	
	07:45	END SHUT-IN	45	2063	
	07:47	START FLOW	47	220	
	07:48	GAS TO SURFACE-1/8" CHOKE	48		
	07:57		57		10.0
	08:07		67		11.5
	08:17		77		14.0
	08:27		87		15.5
	08:37		97		17.5
	08:47		107		19.0
	09:07		127		22.0
	09:27		147		22.75
	09:47		167		22.50
	10:07		187		22.5
	10:27		207		22.5
	10:47		227		22.25
	11:07		247		21.5
	11:27		267		20.75
	11:47	19.50	287		19.5
	11:47	END FLOW & START SHUT-IN	287	629	
18-OCT	06:24	END SHUT-IN	1404	2412	
	06:26	HYDROSTATIC MUD	1406	2619	



Petral Exploration, Inc.

#2 Knockando Unit

Sec. 19 T37S R25E

San Juan County, Utah

CONFIDENTIAL

43 037 31780

2018 FSL 1388 FWL

DRL

NESW

Precision Core Analysis, Inc.



Precision Core Analysis Inc.

Petral Exploration, Inc.
 #2 Knockando Unit
 Sec. 19 T37S R25E
 San Juan County, Utah

Job: 9666
 Date: 27-Oct-96

Reference Number	Depth (ft)	Permeability Air (md)	Permeability Klink (md)	Helium Porosity (%)	Saturations Water (%)	Saturations Oil (%)	Grain Density (g/cc)	Sample Description
<i>Core No. 1 Ismay Fm. 5146.0'-5206.0' Rec. 59.5'/60.0'</i>								
1	5146.2	0.417	0.287	3.2	42.5	23.0	2.73	Wkst pr srtg sl vug styl
2	5147.3	0.052	0.026	3.2	28.1	11.2	2.73	Wkst pr srtg sl vug styl
3	5148.2	1.64	1.28	4.4	26.5	10.6	2.72	Wkst pr srtg sl vug styl
4	5149.4	21.7	17.7	17.8	42.2	11.7	2.81	Grst suc anhy cmt v vug
5	5150.0	0.422	0.291	8.2	32.0	4.9	2.76	Wkst pr srtg anhy cmt sl vug
6	5151.2	0.361	0.244	8.0	23.0	3.4	2.75	Wkst pr srtg anhy cmt sl vug
7	5152.6	0.088	0.048	6.1	42.3	10.2	2.73	Wkst pr srtg anhy cmt sl vug
8	5153.5	0.176	0.108	5.7	15.4	6.6	2.72	Wkst pr srtg anhy cmt sl vug
9	5154.2	0.534	0.383	6.7	N/A		2.75	Wkst pr srtg anhy cmt sl vug
10	5154.6	1.06	0.824	6.5	19.9	10.0	2.71	Wkst pr srtg tr anhy cmt sl vug
11	5155.3	0.083	0.045	6.3	18.2	3.6	2.70	Wkst pr srtg anhy m-frac styl
12	5156.3	0.804	0.605	6.1	34.6	5.5	2.73	Wkst pr srtg anhy m-frac styl
13	5157.6	0.320	0.214	5.7	26.4	0.6	2.72	Wkst pr srtg anhy m-frac styl
14	5158.2	<0.001	<0.001	6.7	30.7	6.1	2.75	Wkst pr srtg tr anhy cmt sl vug
15	5159.3	0.084	0.046	4.4	36.7	2.1	2.77	Wkst pr srtg anhy sl vug styl
16	5159.8	13.5	10.9	16.3	N/A		2.82	Grst v vug anhy cmt suc
17	5160.2	7.14	5.68	13.9	N/A		2.83	Grst v vug anhy cmt suc
18	5160.7	23.6	19.3	12.1	43.3	3.5	2.82	Grst v vug anhy cmt suc m-frac
19	5161.3	4.07	3.06	9.7	29.9	3.5	2.79	Wkst pr srtg vug anhy
20	5162.8	1.08	0.836	6.0	20.4	10.2	2.71	Wkst pr srtg sl vug anhy styl
21	5163.2	3.09	2.42	9.7	30.5	6.3	2.70	Wkst pr srtg vug tr anhy
22	5164.7	Unsuitable		9.5	24.7	2.5	2.70	Wkst pr srtg vug tr anhy
23	5165.3	1.73	1.35	8.0	N/A		2.70	Wkst pr srtg vug tr anhy
24	5165.6	0.148	0.089	5.5	18.9	7.1	2.71	Wkst pr srtg vug calc cmt
25	5166.3	1.33	0.997	5.3	36.8	10.7	2.70	Wkst pr srtg vug calc cmt
26	5166.7	0.023	0.010	3.4	N/A		2.71	Wkst pr srtg sl vug anhy cmt
27	5167.1	0.011	0.004	1.5	27.4	8.9	2.77	Mdst anhy cmt m-frac
28	5168.2	0.071	0.038	9.7	31.4	5.2	2.83	Wkst pr srtg anhy cmt lam

Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Reference Number	Depth (ft)	Permeability Air (md)	Permeability Klink (md)	Helium Porosity (%)	Saturations Water (%)	Saturations Oil (%)	Grain Density (g/cc)	Sample Description
29	5169.2	0.197	0.123	13.0	24.1	0.0	2.80	Wkst pr srtg anhy cmt
30	5170.2	0.001	<0.001	1.5	18.6	3.8	2.76	Wkst pr srtg anhy cmt
31	5171.3	0.001	<0.001	0.0	19.8	3.3	2.73	Wkst pr srtg foss
32	5172.2	0.001	<0.001	0.2	56.2	2.5	2.74	Wkst pr srtg foss
33	5173.3	0.002	<0.001	0.2	29.1	0.0	2.74	Wkst pr srtg foss
34	5174.3	0.023	0.009	4.8	25.3	0.0	2.75	Wkst pr srtg foss
35	5175.8	1.67	1.25	12.1	24.6	0.9	2.79	Mdst carb suc
36	5176.7	1.11	0.864	11.2	44.8	2.2	2.78	Mdst suc anhy cmt
37	5177.6	6.29	4.97	16.5	34.2	1.1	2.80	Mdst suc sl vug
38	5178.4	1.92	1.51	12.9	31.7	0.0	2.78	Mdst suc anhy cmt tr vug
39	5179.6	3.20	2.51	15.6	39.0	0.0	2.79	Mdst suc anhy cmt carb
40	5180.4	1.12	0.871	13.6	21.4	0.0	2.78	Mdst suc anhy algal
41	5181.5	13.4	10.8	22.7	N/A		2.82	Wkst suc vug tr anhy mott
42	5181.9	3.91	3.08	15.3	30.5	0.0	2.83	Wkst suc vug anhy cmt mott
43	5182.4	3.74	2.94	13.4	52.3	0.6	2.83	Wkst suc vug anhy cmt mott
44	5183.2	3.75	2.94	14.9	49.5	3.0	2.82	Wkst suc anhy cmt algal
45	5184.1	1.03	0.797	14.2	47.4	2.8	2.81	Wkst suc anhy cmt vug
46	5185.4	19.4	15.8	23.8	45.7	0.0	2.81	Wkst suc tr anhy algal
47	5186.1	26.3	21.7	23.2	59.9	0.6	2.81	Wkst suc tr anhy algal
48	5186.6	12.2	9.80	18.1	N/A		2.82	Wkst suc tr anhy sl algal vug
49	5187.5	2.13	1.67	11.4	59.5	0.9	2.83	Wkst suc anhy sl algal vug
50	5188.4	6.79	5.38	18.0	49.0	0.7	2.82	Wkst suc anhy sl algal vug
51	5189.5	3.33	2.62	18.2	48.5	0.8	2.82	Wkst suc anhy sl algal vug
52	5190.6	0.971	0.744	14.9	53.3	0.7	2.82	Wkst suc anhy sl algal vug
53	5191.3	0.427	0.295	13.2	47.8	1.0	2.83	Wkst suc anhy sl algal vug
54	5192.7	2.64	2.07	13.4	56.1	0.8	2.82	Wkst suc anhy sl algal vug
55	5193.5	30.6	25.3	18.2	58.4	0.7	2.83	Wkst suc anhy algal vug frac
56	5194.7	4.74	3.73	13.9	34.8	0.0	2.77	Wkst suc anhy algal vug
57	5195.4	0.857	0.648	11.6	40.4	0.0	2.83	Wkst suc anhy algal vug

Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Reference Number	Depth (ft)	Permeability		Helium Porosity (%)	Saturation		Grain Density (g/cc)	Sample Description
		Air (md)	Klink (md)		Water (%)	Oil (%)		
58	5196.6	1.57	1.23	16.7	42.8	0.0	2.80	Wkst suc anhy algal vug
59	5197.4	0.467	0.330	14.2	13.9	0.0	2.78	Wkst suc anhy algal tr vug
60	5198.3	0.109	0.063	13.0	15.2	0.0	2.78	Wkst suc calc cnt sl algal

Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Mini-Permeameter Data

Depth (ft)	Perm 1 (md)	Perm 2 (md)	Perm 3 (md)	Perm 4 (md)	Perm 5 (md)	Average (md)
5146	0.13	0.29	0.42	0.19	0.42	0.29
5147	0.18	0.39	0.28	0.32	0.24	0.28
5148	0.14	0.29	0.33	0.25	0.69	0.34
5149	0.27	0.51	7.69	0.27	0.75	1.90
5150	0.53	0.77	0.62	0.33	0.36	0.52
5151	0.51	0.59	0.98	0.82	0.36	0.65
5152	0.78	4.55	1.03	0.68	1.76	1.76
5153	1.03	0.36	0.65	0.92	1.62	0.92
5154	0.49	1.15	1.13	1.09	0.87	0.95
5155	0.32	0.45	0.49	1.21	0.09	0.51
5156	0.27	0.26	0.56	0.29	0.63	0.40
5157	0.35	0.27	0.12	0.32	0.21	0.25
5158	0.12	0.04	0.52	0.61	0.79	0.42
5159	0.45	0.98	1.12	13.77	5.94	4.45
5160	1.75	1.45	8.73	3.16	0.74	3.17
5161	0.48	0.05	0.49	11.76	0.61	2.68
5162	0.1	1.04	7.72	1.15	1.63	2.33
5163	2.07	9.47	14.28	1.68	N/A	5.50
5164	10.75	7.14	10.59	0.89	N/A	5.87
5165	0.26	0.34	0.96	1.97	0.73	0.85
5166	0.91	0.52	0.46	0.26	0.19	0.47
5167	0.3	0.28	3.91	4.37	0.3	1.83
5168	0.34	0.43	0.22	0.46	0.17	0.32
5169	0.17	0.1	0.06	0.04	0.05	0.08
5170	0.11	0.17	0.1	0.06	0.06	0.10
5171	0.06	0.05	0.04	<0.01	<0.01	0.03
5172	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

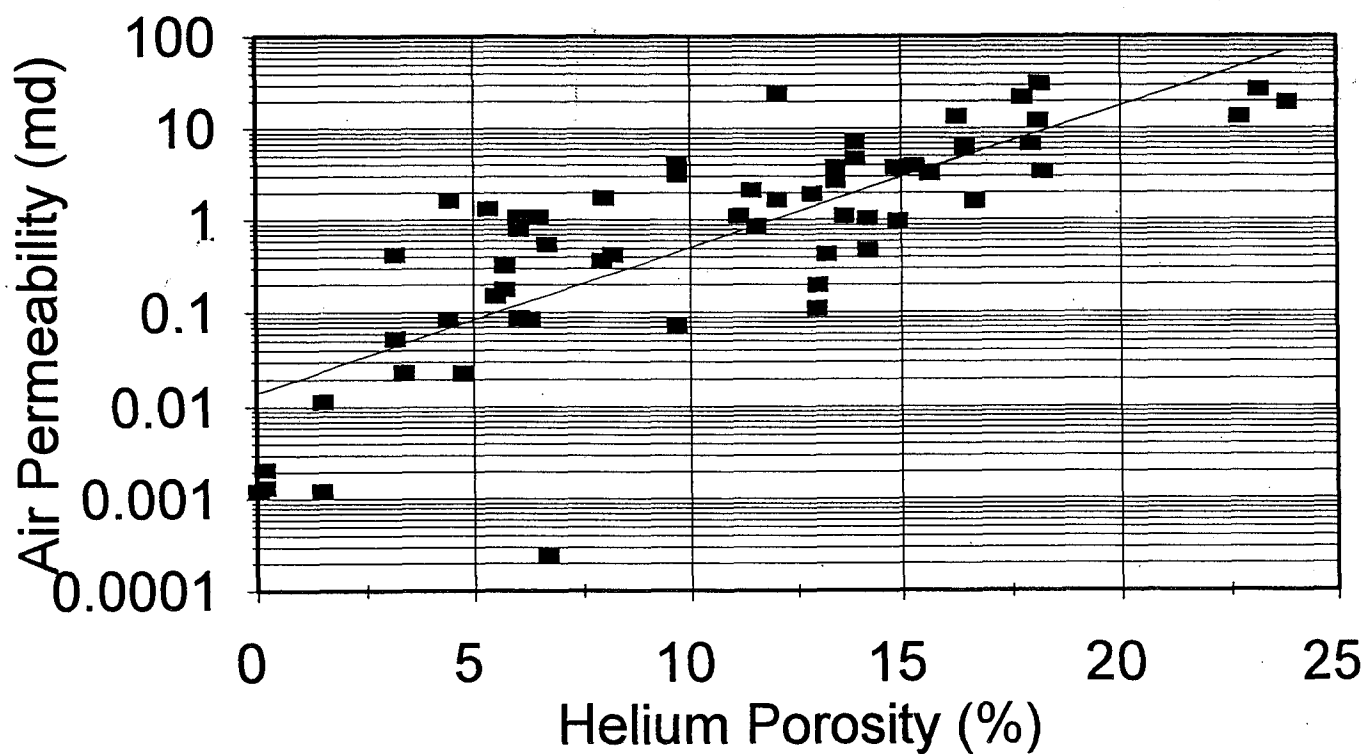
Mini-Permeameter Data

Depth (ft)	Perm 1 (md)	Perm 2 (md)	Perm 3 (md)	Perm 4 (md)	Perm 5 (md)	Average (md)
5173	<0.01	<0.01	<0.01	0.05	<0.01	0.02
5174	0.04	<0.01	<0.01	<0.01	<0.01	0.02
5175	0.11	<0.01	<0.01	<0.01	0.1	0.05
5176	0.36	<0.01	0.2	0.29	0.04	0.18
5177	0.06	<0.01	<0.01	0.65	0.12	0.17
5178	0.96	0.31	1.34	0.26	0.27	0.63
5179	<0.10	0.37	<0.10	0.32	0.23	0.22
5180	0.19	<0.10	<0.10	0.11	0.29	0.16
5181	0.43	6.62	0.22	0.64	0.41	1.66
5182	0.38	1.02	0.12	1.93	8.15	2.32
5183	0.68	1.12	2.72	1.76	0.64	1.38
5184	0.32	1.05	1.85	0.55	0.63	0.88
5185	5.18	6.45	7.34	8.13	10.21	7.46
5186	6.14	2.35	0.69	4.29	2.99	3.29
5187	0.59	<0.10	<0.10	0.23	0.16	0.24
5188	<0.10	0.82	0.4	<0.10	1.47	0.54
5189	5.76	3.25	1.1	3.37	1.47	2.99
5190	0.84	1.56	1.14	1.84	0.55	1.19
5191	0.79	0.38	0.49	1.17	5.45	1.66
5192	7.08	4.78	5.9	4.31	1.56	4.73
5193	0.96	6.71	2.42	5.85	9.56	5.10
5194	7.82	4.61	8.21	2.07	2.24	4.99
5195	1.47	1.11	1.35	2.19	2.65	1.75
5196	0.76	1.05	1.01	1.88	1.07	1.15
5197	1.28	3.91	5.81	0.42	1.47	2.58
5198	0.4	0.19	0.2	0.34	0.15	0.26

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

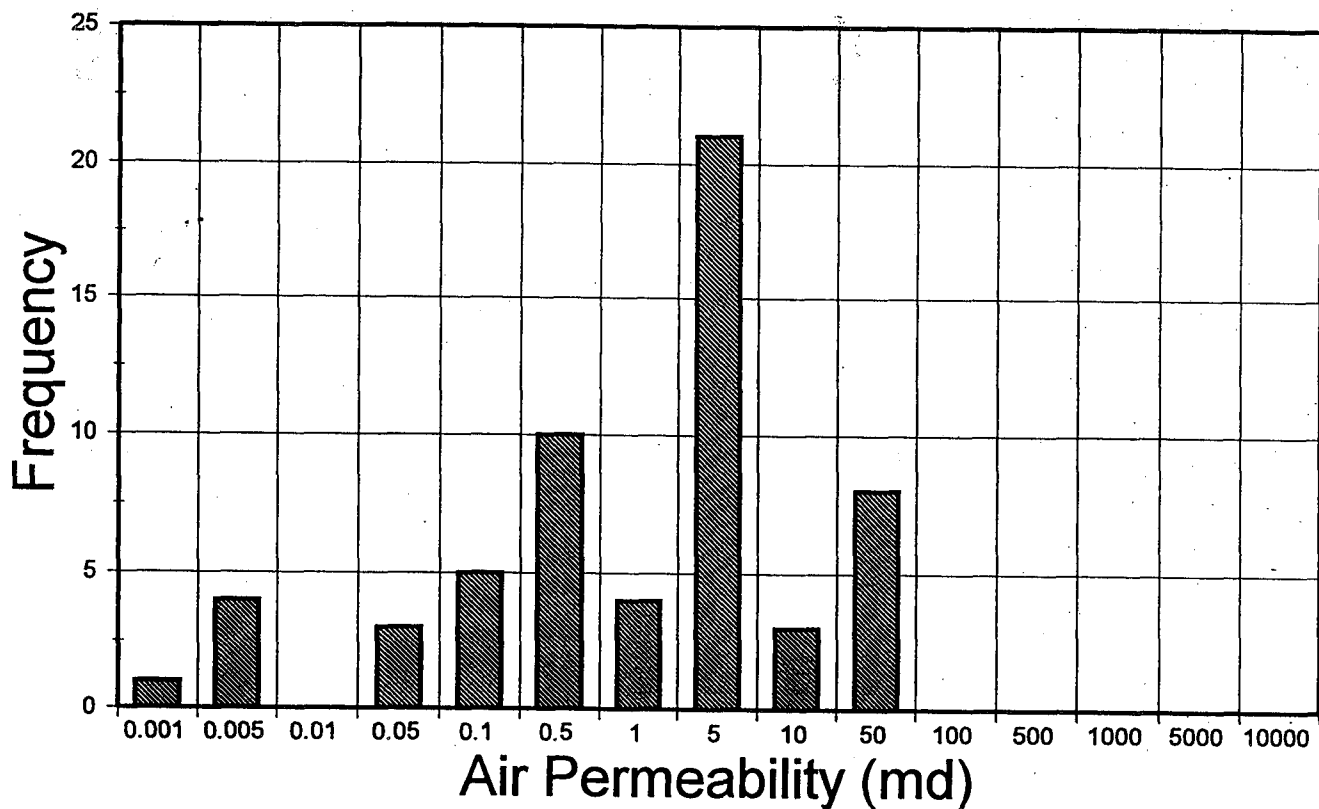
Air Permeability vs Helium Porosity



Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

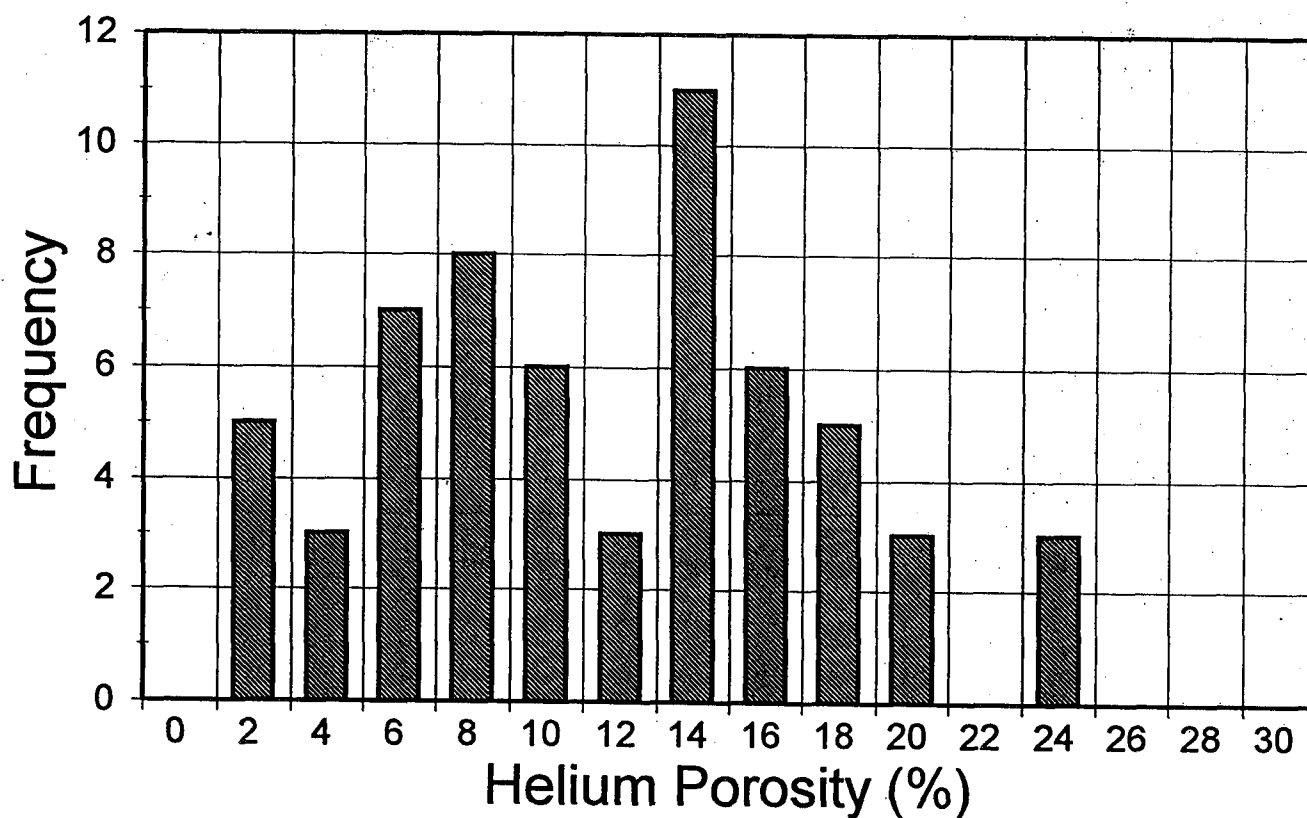
Air Permeability Frequency Distribution



Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

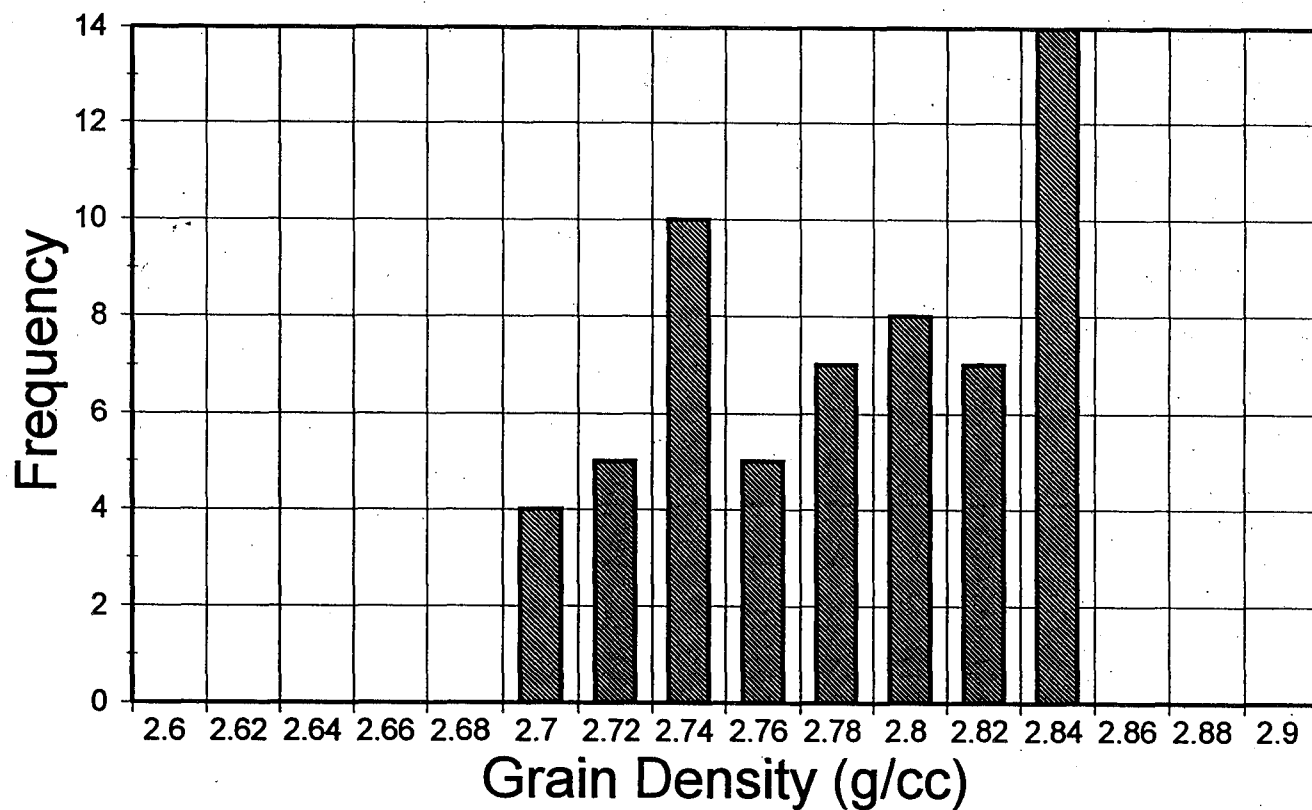
Helium Porosity Frequency Distribution



Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Grain Density Frequency Distribution



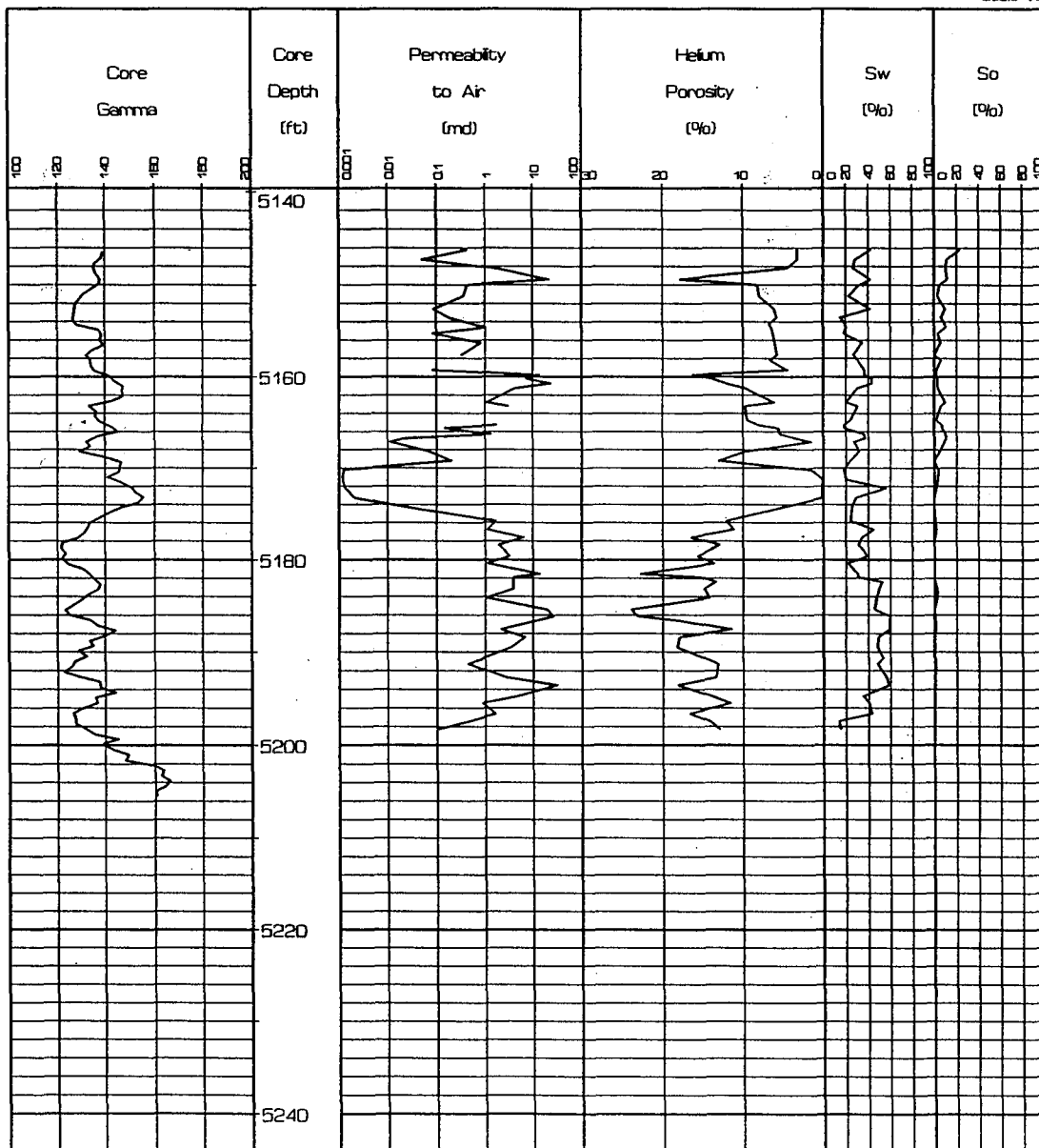
Precision Core Analysis Inc.

Petral Exploration, Inc.
 #2 Knockando Unit
 Sec. 19 T37S R25E
 San Juan County, Utah

Job: 9666
 Date: 27-Oct-96

PETRO-LOG

Scale 1:240



Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Zone	Permeability (md)*			Porosity (%)**		
	Median	Arith. Mean	Geom. Mean	Median	Arith. Mean	Geom. Mean
Zone1	1.079	4.026	0.614	11.298	10.559	7.587

* Values above 0.00 md

** Values above 0.00 %

Precision Core Analysis Inc.

Petral Exploration, Inc.
#2 Knockando Unit
Sec. 19 T37S R25E
San Juan County, Utah

Job: 9666
Date: 27-Oct-96

Zone1 Air Permeability Regression

Regression Output:

Constant	-1.854864
Std Err of Y Est	0.737639
R Squared	0.616214
No. of Observations	59.000000
Degrees of Freedom	57.000000

X Coefficient(s)	0.155301
Std Err of Coef.	0.016234

Zone1 Klinkenberg Permeability Regression

Regression Output:

Constant	-2.285138
Std Err of Y Est	0.885403
R Squared	0.589338
No. of Observations	59.000000
Degrees of Freedom	57.000000

X Coefficient(s)	0.176234
Std Err of Coef.	0.019486

CONFIDENTIAL
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ORIGINAL HOLE
SUBMIT IN DUPLICATE

(See other In-
structions on
reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other ☐
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RENVR. ☐ Other ☐

2. NAME OF OPERATOR
Petral Exploration, LLC

3. ADDRESS OF OPERATOR c/o McIlnay & Associates, Inc.
2305 Oxford Lane, Casper, WY 82604

4. LOCATION OF WELL (Report location clearly and in accordance with BLM State of Wyoming)
At surface
2018' FSL & 1388' FWL (NW NE SW) Sec. 19-T37S-R25E
At top prod. interval reported below

At total depth
Same

14. PERMIT NO. 43-037-31780
DATE ISSUED 9-30-96

15. DATE SPUDDED 9-26-96
16. DATE T.D. REACHED 10-21-96
17. DATE COMPL. (Ready to prod.) SI 12-11-96

18. ELEVATIONS (OF RKB, RT, GR, ETC.)* 5022' GL - 5034' KB
20. TOTAL DEPTH, MD & TVD 5447' DRLR
21. PLUG, BACK T.D., MD & TVD 5142'

22. IF MULTIPLE COMPL., HOW MANY*
23. INTERVALS DRILLED BY
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
None

25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
PE Porosity Lith., PE Resistivity, PE Microlog, GR-BHCS, GR-CCL 10-28-96

27. WAS WELL CORED
Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	Steel	42'	20"	3 yards cement	---
8 5/8"	24#	2510'	12 1/4"	1245 Sks.	---
5 1/2"	15.50#	5443.70'	7 7/8"	505 Sks.	---

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	5054.71'	5062'

31. PERFORATION RECORD (Interval, size and number)

5084 - 5089 - 29' - 116 holes
5092 - 5104 - 13' - 52 holes
5134 - 5140' - 6' - 24 holes (Reperforated)
(5134 - 62' Original - Squeezed w/45 sks.)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5162 - 5081	40 Bbls. Acid
	129 Bbls. MSR 100 Acid & KCl
	8.33 Bbls. 7 1/2% MSR-100

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
None		Shut-in

DATE OF TEST	HOURS TESTED	CHOKER SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12/11/97	8 1/2	Swab	→	1.56 (9%)	TSTM	15.9 (91%)	---

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
		→				

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
None - TSTM

35. LIST OF ATTACHMENTS
Core Analysis and DST Reports

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records
McIlnay & Associates, Inc.
SIGNED Dwain W. McIlnay TITLE Consulting Engineers DATE 8-11-97

*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME Log Tops	MEAS. DEPTH	TOP VERT. DEPTH
			DST #1 - Ismay 5156 - 5219	✓ Honaker Trail	4076'	
			DST #2 - Upper Ismay - 5095 - 5170'	✓ LaSail	4854'	
				✓ Black Shale Mrk.	4994'	
				✓ Shale 1	5045'	
			Core #1 - Ismay - 5146 - 5206' KB	✓ Upper Ismay	5064'	
				✓ Upper RE Anhyd.	5070'	
				✓ Upper Ismay Md.	5084'	
				✓ Hovenweep Sh.	5198'	
			See attached reports	✓ Lower Ismay	5224'	
				✓ Lower Ismay Anh.	5263'	
				✓ Lower Ismay Carb.	5284'	
				✓ Gothic Shale	5294'	
				✓ Upper Desert Crk.	5318'	
				✓ U. Desert Crk. Anh.	5332'	
				✓ L. " "	5370'	
				✓ L. " " Md.	5376'	
				✓ Chimney Rock Sh.	5394'	
				✓ Akah	5416'	
				✓ TD	5446'	

38. GEOLOGIC MARKERS

CONFIDENTIAL

CONFIDENTIAL



Scientific Drilling International

CASPER, WY

Company: Petral Exploration	Date: 6/24/97	Time: 11:08:30	Page: 1
Field: San Juan County, UT	Co-ordinate(NE) Reference: Site Centre Knockando RDH, True North		
Site: Knockando RDH	Vertical (TVD) Reference: Field: Mean Sea Level		
Well: #2	Section (VS) Reference: Slot (0.0E, 0.0N, 50.8Azi)		
Wellpath: OH Original hole	Survey Calculation Method: Minimum Curvature		

Survey: Survey #1 **Start Date:** 6/24/97

Company: Scientific Drilling Intrl. **Tool:**
Engineer: Jon Valenzuela

Field: San Juan County, UT	Local Coordinate Reference: Site Centre
	Location of Field Centre: N/A
	Field Centre Map Easting: ft
	Field Centre Map Northing: ft
Map Projection & Zone:	Direction of Local North: True
Ellipsoid:	Local Vertical Reference: Wellpath Datum
Field Datum: Mean Sea Level	Geomagnetic Model: IGRF95

Site: Knockando RDH
SEC.19,T37S,R25E

Site Centre:	ft E	Latitude
	ft N	Longitude

Site Water Depth: 0.0 ft

Magnetic Declination: 12.30 deg
Grid Convergence: 0.00 deg

Measured Depths Referenced To: Mean Sea Level 0.0 ft above Mean Sea Level

Well: #2

Originating From: 0.0 ft +N-S
0.0 ft +E-W

Wellpath: OH Original hole

Origin of Vertical Section: Slot 0.0 ft +N-S
0.0 ft +E-W

Direction of Vertical Section: 50.81 deg

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS d/100ft	CLen ft	ChD ft	ChA deg
120.0	0.10	65.00	120.0	0.1	0.0	0.1	0.00	0.0	0.1	68.20
220.0	0.14	86.44	220.0	0.3	0.1	0.3	0.06	100.0	0.3	74.33
320.0	0.14	101.53	320.0	0.5	0.1	0.5	0.04	100.0	0.5	82.90
420.3	0.37	136.48	420.3	0.6	-0.2	0.9	0.27	100.3	0.9	102.21
520.5	0.48	151.96	520.5	0.5	-0.8	1.3	0.16	100.2	1.5	121.39
620.3	0.58	165.29	620.3	0.2	-1.7	1.6	0.16	99.8	2.3	135.41
720.7	0.60	168.90	720.7	-0.2	-2.7	1.9	0.04	100.4	3.2	145.04
820.6	0.81	195.66	820.6	-1.1	-3.9	1.8	0.39	99.9	4.2	155.33
920.7	0.78	192.80	920.7	-2.2	-5.2	1.4	0.05	100.1	5.4	164.64
1020.9	0.85	193.88	1020.9	-3.3	-6.6	1.1	0.07	100.2	6.7	170.52
1120.2	0.78	196.40	1120.1	-4.5	-8.0	0.7	0.08	99.3	8.0	174.74
1220.6	0.79	210.10	1220.5	-5.7	-9.2	0.2	0.19	100.4	9.2	178.80
1320.9	0.84	207.77	1320.8	-7.0	-10.5	-0.5	0.06	100.3	10.5	182.72
1420.3	0.88	204.74	1420.2	-8.3	-11.8	-1.2	0.06	99.4	11.8	185.60
1520.6	0.74	198.99	1520.5	-9.6	-13.1	-1.7	0.16	100.3	13.2	187.35
1620.5	0.60	201.77	1620.4	-10.6	-14.2	-2.1	0.14	99.9	14.4	188.39
1720.6	0.43	217.63	1720.5	-11.4	-15.0	-2.5	0.22	100.1	15.2	189.54
1820.2	0.21	254.32	1820.1	-12.0	-15.3	-2.9	0.29	99.6	15.6	190.79



Scientific Drilling International

CASPER, WY

Company: Petral Exploration
Field: San Juan County, UT
Site: Knockando RDH
Well: #2
Wellpath: OH Original hole

Date: 6/24/97 Time: 11:06:30 Page: 2
Co-ordinate(NE) Reference: Site Centre Knockando RDH, True North
Vertical (TVD) Reference: Field: Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,50.8Azi)
Survey Calculation Method: Minimum Curvature

Survey

Mean Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS d/100ft	CLen ft	ChD ft	ChA deg
1920.8	0.22	354.61	1920.7	-12.0	-15.2	-3.1	0.33	100.6	15.5	191.60
2020.3	0.33	23.68	2020.2	-11.7	-14.7	-3.0	0.18	99.5	15.0	191.58
2120.7	0.36	11.91	2120.6	-11.1	-14.2	-2.8	0.08	100.4	14.4	191.33
2220.2	0.33	4.90	2220.1	-10.7	-13.6	-2.7	0.05	99.5	13.8	191.45
2320.4	0.47	5.65	2320.3	-10.2	-12.9	-2.7	0.14	100.2	13.1	191.78
2420.3	0.45	357.12	2420.2	-9.7	-12.1	-2.7	0.07	99.9	12.4	192.44
2520.6	0.44	12.22	2520.5	-9.2	-11.3	-2.6	0.12	100.3	11.6	192.96
2620.5	0.49	16.07	2620.4	-8.5	-10.5	-2.4	0.06	99.9	10.8	192.87
2720.5	0.46	6.71	2720.4	-7.9	-9.7	-2.2	0.08	100.0	10.0	192.98
2820.2	0.55	13.13	2820.1	-7.2	-8.8	-2.1	0.11	99.7	9.1	193.24
2920.7	0.49	27.06	2920.6	-6.4	-8.0	-1.8	0.14	100.5	8.2	192.53
3020.7	0.48	26.18	3020.6	-5.7	-7.2	-1.4	0.01	100.0	7.4	190.93
3120.7	0.65	33.21	3120.6	-4.7	-6.4	-0.9	0.18	100.0	6.4	188.04
3220.5	0.65	35.24	3220.4	-3.6	-5.4	-0.3	0.02	99.8	5.5	182.78
3320.5	0.72	23.39	3320.3	-2.5	-4.4	0.3	0.16	100.0	4.4	175.96
3420.6	0.90	20.84	3420.4	-1.3	-3.1	0.8	0.18	100.1	3.2	164.81
3520.9	0.92	14.20	3520.7	0.0	-1.6	1.3	0.11	100.3	2.1	140.16
3620.5	1.00	13.28	3620.3	1.4	0.0	1.7	0.08	99.6	1.7	88.65
3720.5	1.11	14.77	3720.3	2.8	1.8	2.2	0.11	100.0	2.8	49.81
3820.9	1.07	18.15	3820.7	4.4	3.7	2.7	0.08	100.4	4.5	36.45
3920.6	1.23	16.41	3920.4	6.1	5.6	3.3	0.16	99.7	6.5	30.61
4020.1	1.21	23.49	4019.8	7.9	7.6	4.0	0.15	99.5	8.6	27.98
4120.6	1.25	21.10	4120.3	9.8	9.6	4.8	0.06	100.5	10.7	26.83
4220.5	1.41	24.39	4220.2	11.8	11.7	5.7	0.18	99.9	13.0	26.12
4320.3	1.33	25.13	4320.0	14.0	13.9	6.7	0.08	99.8	15.4	25.91
4420.7	1.39	25.30	4420.3	16.1	16.0	7.7	0.06	100.4	17.8	25.82
4520.2	1.40	23.50	4519.8	18.3	18.2	8.7	0.05	99.5	20.2	25.65
4620.3	1.54	17.74	4619.9	20.5	20.6	9.6	0.20	100.1	22.8	25.07
4720.6	1.69	12.29	4720.1	22.8	23.3	10.4	0.21	100.3	25.5	23.95
4820.4	1.37	10.86	4819.9	24.9	26.0	10.9	0.32	99.8	28.2	22.79
4920.4	1.21	19.09	4919.9	26.7	28.1	11.5	0.24	100.0	30.4	22.20
5001.0	1.49	259.47	5000.4	26.5	28.7	10.7	2.90	80.6	30.7	20.46
5067.0	23.37	57.23	5064.7	38.9	35.8	21.1	37.51	66.0	41.5	30.47
5100.0	36.95	58.31	5093.2	55.3	44.6	35.1	41.18	33.0	56.7	38.19
5128.0	46.56	55.19	5114.1	73.9	54.8	50.6	35.11	28.0	74.6	42.71
5163.0	68.25	51.84	5132.8	103.1	72.3	74.1	62.48	35.0	103.6	45.69
5194.0	89.60	51.47	5138.7	133.4	91.1	97.8	68.88	31.0	133.7	47.04
5226.0	90.86	52.39	5138.6	165.4	110.8	123.0	4.88	32.0	165.6	47.98
5257.0	89.26	56.17	5138.6	196.3	128.9	148.2	13.24	31.0	196.4	48.97
5288.0	85.69	56.33	5139.9	227.1	146.1	173.9	11.53	31.0	227.2	49.96
5320.0	84.61	55.07	5142.6	258.9	164.1	200.3	5.18	32.0	258.9	50.67
5351.0	87.62	54.20	5144.7	289.8	182.0	225.5	10.11	31.0	289.8	51.09
5382.0	90.17	53.74	5145.3	320.7	200.2	250.5	8.36	31.0	320.7	51.37
5413.0	87.73	50.79	5145.9	351.7	219.2	275.1	12.35	31.0	351.7	51.45
5444.0	90.24	49.50	5146.5	382.7	239.1	298.8	9.10	31.0	382.7	51.34
5476.0	90.05	51.35	5146.4	414.7	259.4	323.5	5.81	32.0	414.7	51.27
5507.0	90.71	51.12	5146.2	445.7	278.8	347.7	2.25	31.0	445.7	51.27
5538.0	89.73	50.97	5146.1	476.7	298.3	371.8	3.20	31.0	476.7	51.25
5570.0	90.17	49.44	5146.1	508.7	318.8	396.4	4.98	32.0	508.7	51.19
5601.0	90.50	50.15	5145.9	539.7	338.8	420.0	2.53	31.0	539.7	51.11
5632.0	91.11	50.06	5145.5	570.7	358.7	443.8	1.99	31.0	570.7	51.05
5664.0	90.75	50.07	5144.9	602.7	379.2	468.4	1.13	32.0	602.7	51.00



Scientific Drilling International

CASPER, WY

Company:	Petral Exploration	Date:	8/24/97	Time:	11:06:30	Page:	3
Field:	San Juan County, UT	Co-ordinate(NE) Reference:	Site Centre Knockando RDH, True North				
Site:	Knockando RDH	Vertical (TVD) Reference:	Field: Mean Sea Level				
Well:	#2	Section (VS) Reference:	Slot (0.0E,0.0N,50.8Azi)				
Wellpath:	OH Original hole	Survey Calculation Method:	Minimum Curvature				

Survey

Meas Depth ft	Inclination deg	Azimuth deg	TVD ft	Vert Sect ft	N/S ft	E/W ft	DLS d/100ft	CLen ft	ChD ft	ChA deg
5695.0	91.21	49.74	5144.4	633.6	399.2	492.1	1.83	31.0	633.6	50.95
5726.0	91.56	49.54	5143.7	664.6	419.3	515.7	1.30	31.0	664.6	50.89
5758.0	92.00	48.76	5142.7	696.6	440.2	539.9	2.80	32.0	696.6	50.81



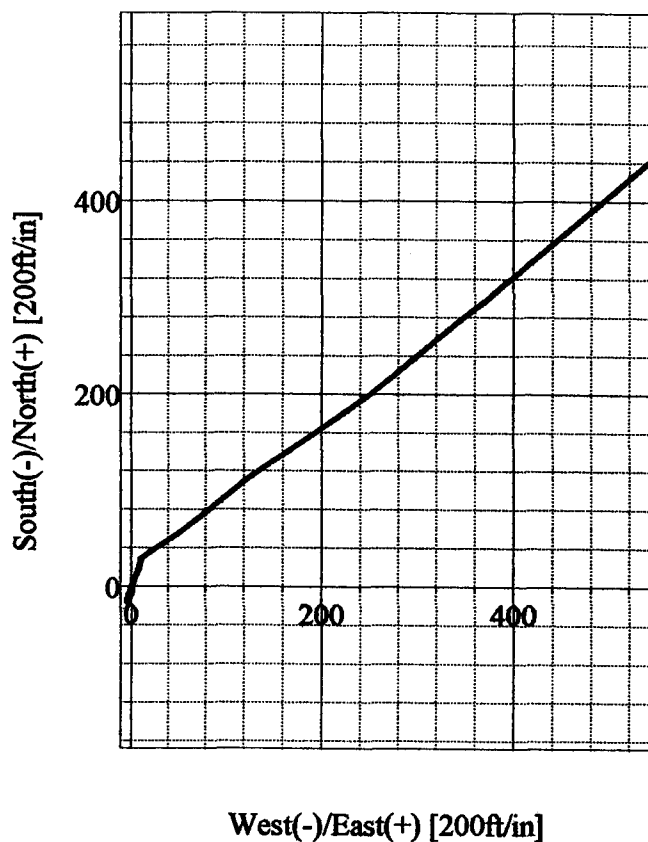
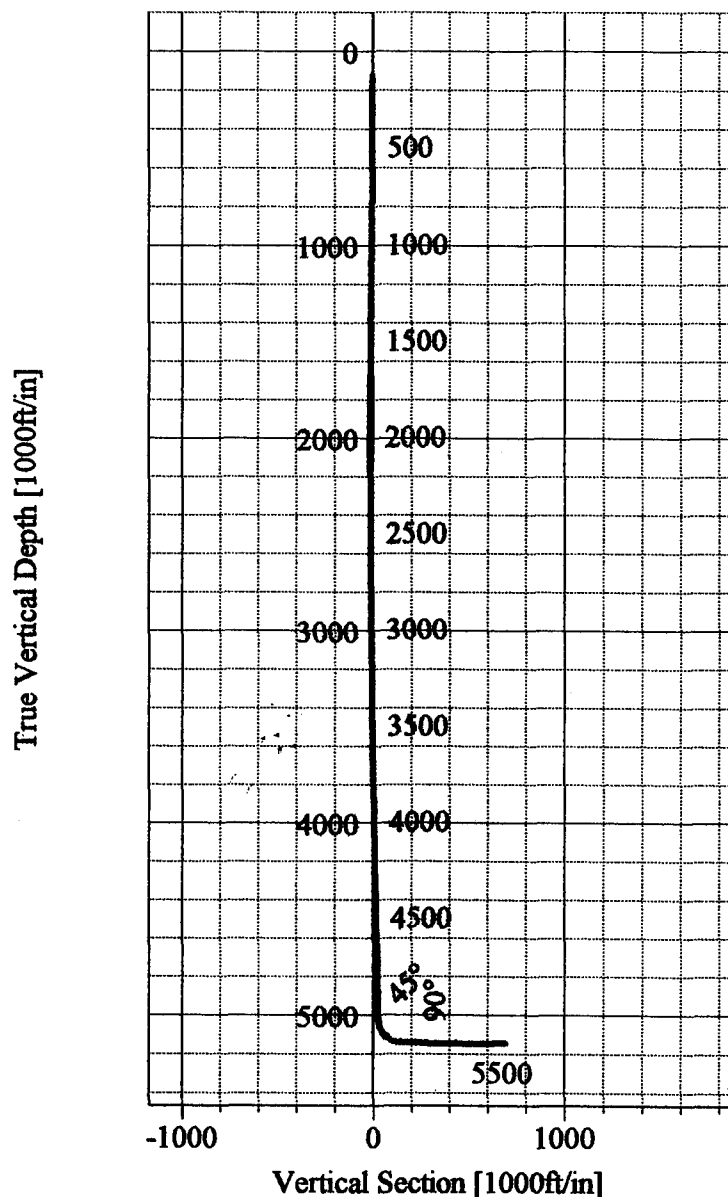
**Scientific
Drilling**

Petral Exploration
Field: San Juan County, UT
Site: Knockando RDH
Well: #2
Wellpath: OH Original hole
Survey: Survey #1



All Angles Relative
To Local North

True North: 0.00
Magnetic North: 12.30



Survey: Survey #1 (#2/OH)

Created By: Judi Moore

Date: 6/24/97

FINAL STATION

5758.0' MD
92.0° Angle
North 440.2 ft.
696.6' Vert. Sect.

5142.7' TVD
48.76° Azimuth
East 539.9 ft.

BOTTOM HOLE CLOSURE

696.6 ft. 50.81° Azimuth

Schlumberger

DIV. OF OIL, GAS & MINING

PRODUCTION RATE DURING TEST: $5.5 \text{ BLPD} = Q_{\text{Avg}} / 1.33 \text{ BLPD} = Q_{\text{Last}}$

OST #2 WAS MECHANICALLY SUCCESSFUL. GAS, OIL AND MUD WERE PRODUCED DURING THE TEST. ANALYSIS OF THE DIAGNOSTIC LOG-LOG PLOT OF PRESSURE AND DERIVATIVE INDICATES THE PRESENCE OF A HOMOGENEOUS SYSTEM WITH SKIN AND DECREASING WELLBORE STORAGE EFFECTS AT EARLY TIME AND TRANSITIONAL FLOW REGIME AT MID TO LATE TIMES. THE DATA WAS MATCHED USING A HOMOGENEOUS, CHANGING WELLBORE STORAGE RESERVOIR MODEL (SEE ANALYSIS RESULTS AND PLOTS, PAGES 2-6). BASED ON THE MATCH, THE BUILDUP RESPONSE WAS NEARING THE START OF INFINITE ACTING RADIAL FLOW AT THE END OF THE TEST. THE TESTED INTERVAL HAS THE CHARACTERISTICS OF LOW EFFECTIVE PERMEABILITY TO OIL AND GAS, AND A BADLY DAMAGED WELLBORE CONDITION AT THE TIME OF THE TEST. FOR QUESTIONS ABOUT THIS REPORT, PLEASE CONTACT DEBORA HALLFORD AT (303) 843-9090.

REPORT NO.
142662

PAGE NO. 2

CALCULATIONS
LIQUID WELL
LOG-LOG ANALYSIS

Schlumberger

LOG (DELTA P) VS. LOG (DELTA T) PLOT

HOMOGENEOUS, INFINITE SYSTEM
SKIN AND DECREASING WELLBORE STORAGE
PD VS. TD/CD

DATA IDENTIFICATION

FLOW PERIOD * 2, BUILDUP
P = 258.55 PSI @ DELTA T=0
FLOW RATE CHANGE = 1.330 STB/D LIQUID

DOWNHOLE RATES (IN RESERVOIR BBL/D)

OIL 1.397 (WITH $B_o=1.050$ BBL/STB)
FREE GAS ... 7.348 (WITH $B_g=0.01112$ BBL/SCF AND
 $R_{so}=55.140$ SCF/STB)

COMPUTED WITH PRODUCING WATER CUT = 0.000
AND PRODUCING GAS/LIQUID RATIO = 552.00 SCF/STB

TYPE-CURVE MATCH

CURVE MATCH, $CD \cdot E(2S) = 8.046E+08$
PRESSURE MATCH, $PD/\Delta P = 0.006298$ 1/PSI
TIME MATCH, $(TD/CD)/\Delta T = 11.758$ 1/HR

CALCULATIONS

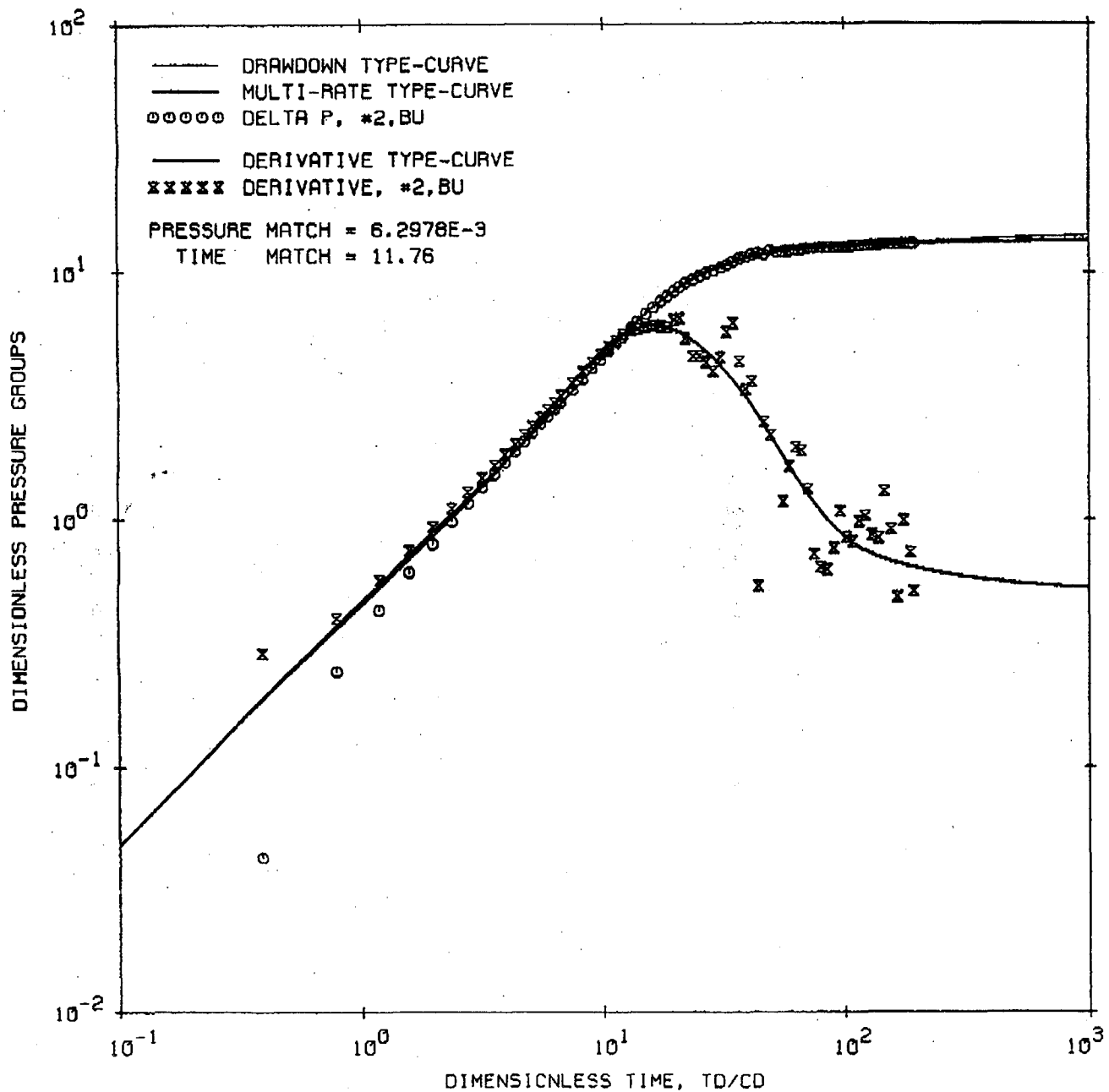
K/MU (TOTAL) 0.2592 MD/CP
KH/MU (TOTAL) 7.777 MD.FT/CP
 K_o (EFFECTIVE TO OIL) 0.04156 MD
 K_g (EFFECTIVE TO GAS) 0.002725 MD
C 1.951E-04 BBL/PSI
CD 1.945
SKIN, S 9.920
RADIUS OF INVESTIGATION ... 16.084 FT (= 32.93 HR)

COMMENTS

USING HOMOGENEOUS, INFINITE SYSTEM RESERVOIR MODEL WITH
SKIN AND DECREASING WELLBORE STORAGE ;
 $C_a/C=1.83$ $C_oD=3.85$

DIMENSIONLESS MULTI-RATE
PLOT: LOG-LOG MATCH FOR
#2,BU

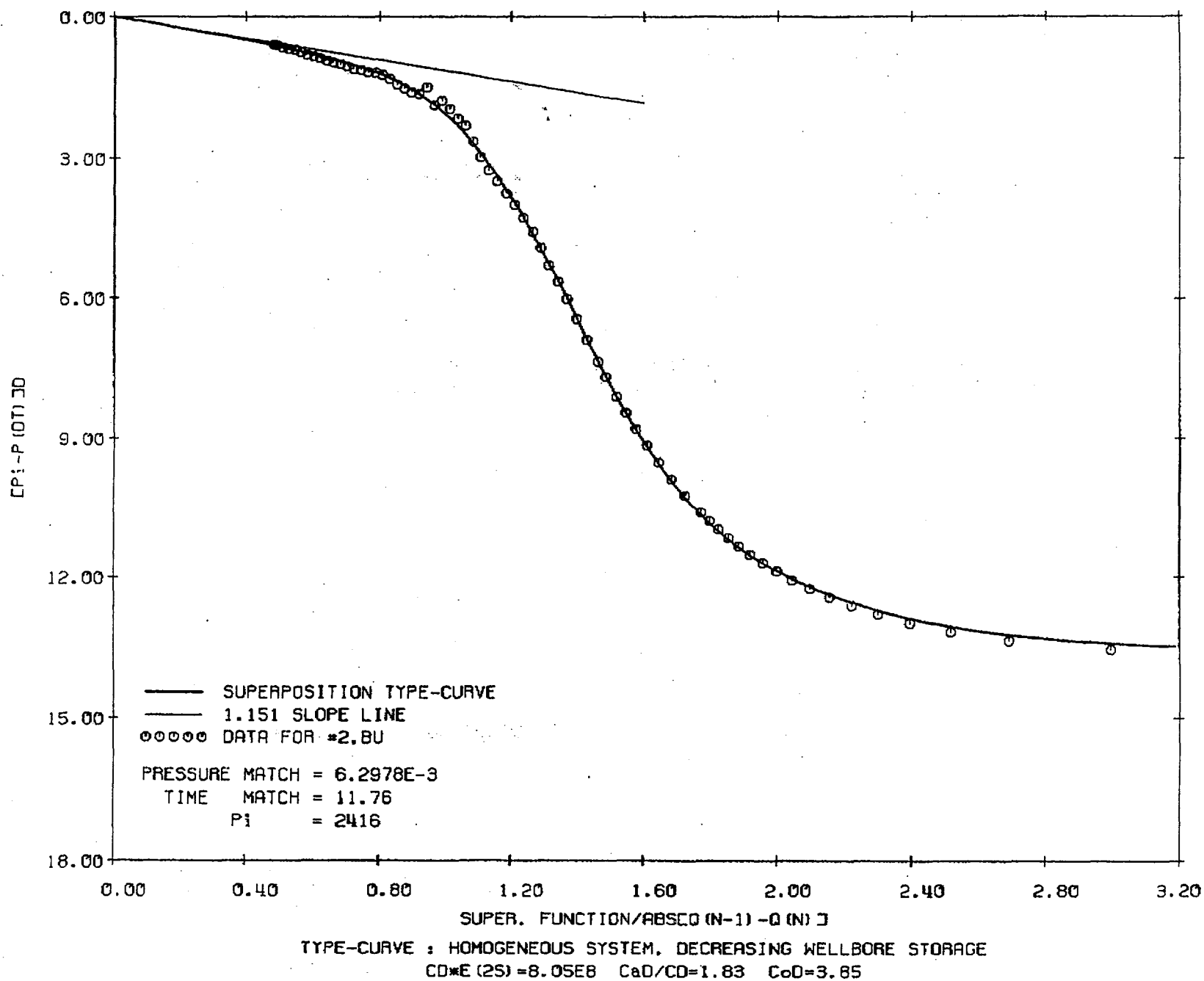
Schlumberger



TYPE-CURVE : HOMOGENEOUS SYSTEM, DECREASING WELLBORE STORAGE
 $CD \cdot E(2S) = 8.05E8$ $C_{aD}/C_D = 1.83$ $C_{oD} = 3.85$

DIMENSIONLESS SUPERPOSITION
PLOT FOR
#2, BU

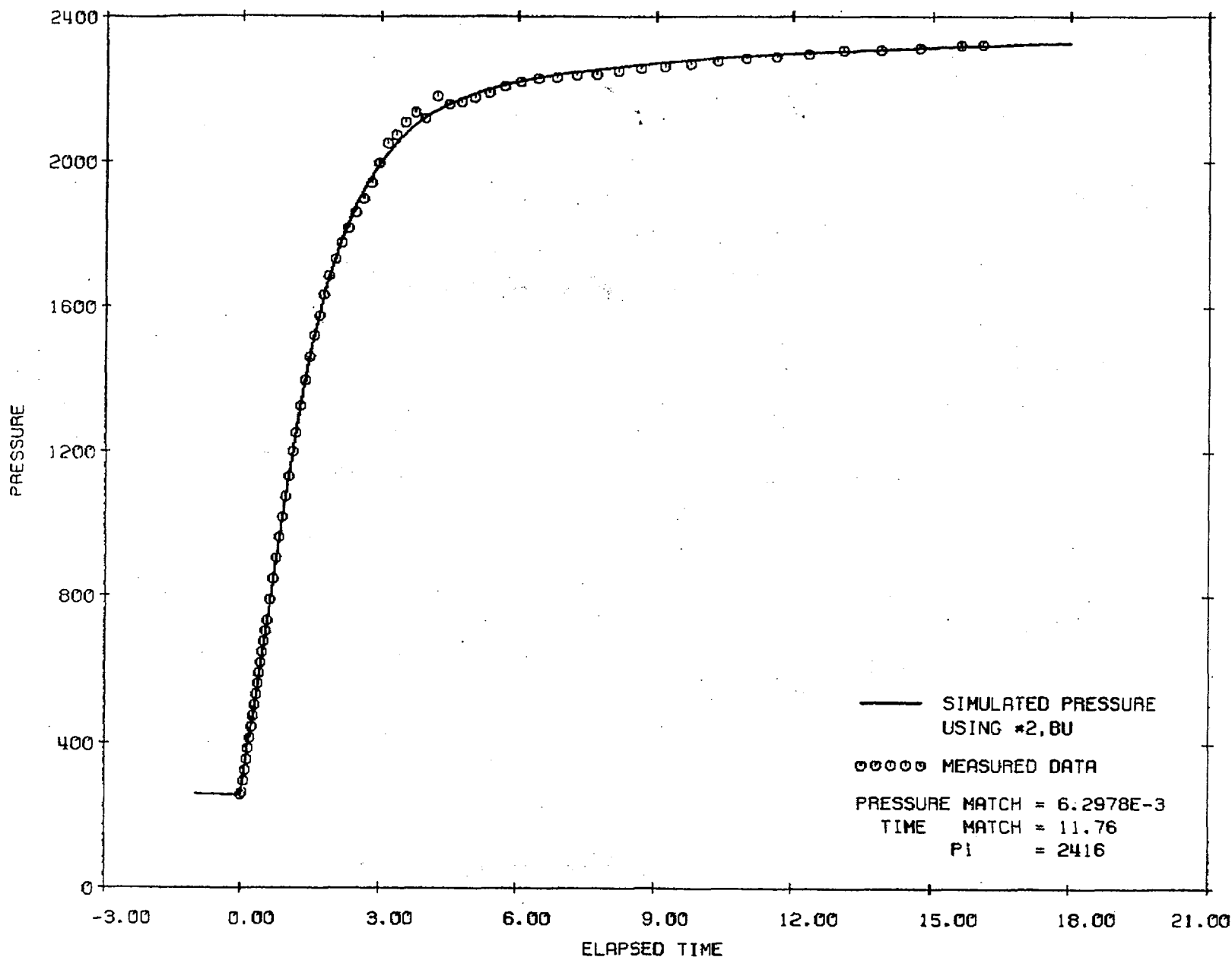
Schlumberger



REPORT NO.
142662
PAGE NO. 5

PRESSURE HISTORY MATCH
SIMULATION

Schlumberger



TYPE-CURVE : HOMOGENEOUS SYSTEM, DECREASING WELLBORE STORAGE
CD*E (2S) = 8.05E8 CaD/CD = 1.83 CoD = 3.85

PORT NO.

142662

PAGE NO. 6

FLOWRATE DATA
USED IN ANALYSIS
KNOCKANDO #2 - DST #2

Schlumberger

Page 1 of 1

ET VS. FLOWRATE

USING CALCULATED LAST FLOWRATE AND EFFECTIVE PRODUCING TIME
PETRAL EXPLORATION - KNOCKANDO #2 - DST #2 - 10/19/96

	ET (hrs) PRIOR TO BUILDUP TEST	TOTAL LIQUID FLOWRATE (BLPD)
1	-32.930	1.3300
2	0.00000E-01	0.00000E-01

ANY INTERPRETATIONS OR RECOMMENDATIONS ARE OPINIONS AND NECESSARILY BASED ON INFERENCES AND EMPIRICAL FACTORS AND ASSUMPTIONS, WHICH ARE NOT INFALLIBLE. ACCORDINGLY, SCHLUMBERGER - GEOQUEST CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION OR MEASUREMENT. UNDER NO CIRCUMSTANCES SHOULD ANY INTERPRETATION OR MEASUREMENT BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT OR PRODUCTION DECISION OR ANY PROCEDURE INVOLVING RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION, WELL TREATMENT, AND PRODUCTION PROCEDURES, AND ALL OTHER ACTIVITIES RELATING TO THE DRILLING OR PRODUCTION OPERATION.

MODEL-VERIFIED (tm) REPORT

Schlumberger

THIS IS SCHLUMBERGER'S MODEL-VERIFIED (tm) INTERPRETATION REPORT. WITH MODEL-VERIFIED (tm) INTERPRETATION, THE GOAL OF THE SCHLUMBERGER ANALYST IS TO CONSTRUCT A TOTAL SYSTEM RESERVOIR MODEL THAT MATCHES ALL OF YOUR WELL TEST DATA. THIS PROVIDES YOU WITH RELIABLE ANSWERS THAT YOU CAN HAVE CONFIDENCE IN.

FROM THE DIAGNOSTIC LOG-LOG PLOT OF PRESSURE AND PRESSURE DERIVATIVE, THE SCHLUMBERGER ANALYST IDENTIFIES THE FLOW REGIMES GOVERNED BY THE INNER BOUNDARY CONDITIONS, BASIC RESERVOIR BEHAVIOR, AND OUTER BOUNDARY CONDITIONS. A RESERVOIR MODEL IS THEN CONSTRUCTED AND THE TEST DATA ARE MATCHED TO IT. IN ORDER TO VERIFY THE QUALITY OF THE MATCH, THE THEORETICAL MODEL RESPONSE (TYPE CURVE) AND THE TEST DATA ARE PLOTTED TOGETHER. THE PRESENTATION OF THE MATCH CAN BE SHOWN IN ANY OF THREE DIFFERENT FORMS.

- 1) LOG-LOG PLOT (DELTA PRESSURE AND DERIVATIVE vs. DELTA TIME)
- 2) SEMI-LOG PLOT (PRESSURE vs. SUPERPOSITION TIME)
- 3) CARTESIAN PLOT (PRESSURE vs. TIME)

SCHLUMBERGER USES SUPERPOSITION TECHNIQUES (MULTI-RATE ANALYSIS) TO ACCOUNT FOR THE WELL'S PRIOR PRODUCTION HISTORY. ESPECIALLY IN CASES WHERE THE PRIOR PRODUCTION IS ERRATIC OR UNUSUAL, SUPERPOSITION IS THE ONLY MEANS OF PROVIDING AN ACCURATE TYPE CURVE MATCH OF THE WELL TEST DATA. FOR GAS WELLS, THE PSEUDO-PRESSURE TECHNIQUE IS USED TO ACCOUNT FOR THE CHANGE IN GAS PROPERTIES WITH CHANGING PRESSURE.

IN SOME INSTANCES, THE WELL TEST DATA WILL NOT BE UNIQUE, i.e., MORE THAN ONE RESERVOIR MODEL WILL MATCH THE TEST DATA. THE MOST APPROPRIATE MODEL CAN BE DETERMINED AS WE WORK WITH YOU AND DISCUSS THE AREA LITHOLOGY AND GEOLOGY.

THE RESERVOIR ANSWERS DERIVED FROM MODEL-VERIFIED (tm) INTERPRETATION CAN INCLUDE: EFFECTIVE PERMEABILITY (K), SKIN DAMAGE (s), RESERVOIR PRESSURE (P*), FRACTURE HALF-LENGTH (Xf), FRACTURE CAPACITY (Kfw), BOUNDARY CONDITIONS AND DISTANCE TO BOUNDARIES, AS WELL AS THE MODEL OF BASIC RESERVOIR BEHAVIOR.

USING THE RESERVOIR MODEL DETERMINED BY MODEL-VERIFIED (tm) INTERPRETATION, FLOWRATE PREDICTIONS CAN BE MADE FOR THE WELL. ADDITIONALLY, WE CAN HELP YOU OPTIMIZE WELL PERFORMANCE BY USING SCHLUMBERGER'S NODAL ANALYSIS SOFTWARE TO EXAMINE THE WELL'S SENSITIVITY TO DIFFERENT COMPLETION DESIGNS (e.g., FRACTURE HALF-LENGTH, TUBING SIZE, WELLHEAD PRESSURE, SKIN VALUE, SHOT DENSITY). THIS AFFORDS YOU THE OPPORTUNITY TO FORECAST PRODUCTION POTENTIAL FOR THE WELL BEFORE MAKING FINAL COMPLETION/RECOMPLETION DECISIONS.

REPORT NO.
142662
PAGE NO. 9

SEQUENCE OF EVENTS

Schlumberger

DATE	TIME (HR:MIN)	DESCRIPTION	ET (MINS)	BHP (PSIA)	WHP (PSIG)
=====					
19-OCT	12:04	HYDROSTATIC MUD-SET PACKER	-2	2846	
	12:06	START FLOW	0	97	
	12:15		9		1.75
	13:05		59		3.25
	14:05		119		4.75
	15:05		179		7.0
	16:05		239		8.25
	16:21	GAS TO SURFACE	255		
	16:25		259		8.5
	16:45		279		7.5
	17:05		299		7.0
	18:05		359		5.25
	19:05		419		4.75
	20:45		519		4.5
	20:04	END FLOW & START SHUT-IN	478	259	
20-OCT	12:22	END SHUT-IN	1456	2321	
	12:28	HYDROSTATIC MUD	1462	2731	

PORT NO.
142662

PAGE NO. 8

WELL TEST MODELS

Schlumberger

THE SCHLUMBERGER ANALYST CONSTRUCTS THE TOTAL SYSTEM RESERVOIR MODEL THAT BEST MATCHES YOUR TEST DATA BY CHOOSING THE INNER BOUNDARY CONDITION(S), A BASIC RESERVOIR MODEL, AND THE OUTER BOUNDARY CONDITION(S). THESE COMPONENTS ARE PUT TOGETHER INTO ONE RESERVOIR MODEL AND THE TEST DATA IS MATCHED BY ADJUSTING THE MODEL PARAMETERS (e.g., PERMEABILITY AND SKIN) TO OBTAIN THE BEST FIT. THE FOLLOWING IS A PARTIAL LIST OF THE MODEL COMPONENTS AVAILABLE TO THE SCHLUMBERGER ANALYST FOR MATCHING YOUR WELL TEST DATA.

INNER BOUNDARY CONDITION

- NO WELLBORE STORAGE
- CONSTANT WELLBORE STORAGE
- VARIABLE WELLBORE STORAGE
- FINITE CONDUCTIVITY VERTICAL FRACTURE
- INFINITE CONDUCTIVITY VERTICAL FRACTURE
- UNIFORM FLUX VERTICAL FRACTURE
- HORIZONTAL FRACTURE
- PARTIAL PENETRATION

BASIC RESERVOIR MODEL

- HOMOGENEOUS
- DUAL POROSITY, PSEUDO STEADY STATE INTERPOROSITY FLOW
- DUAL POROSITY, TRANSIENT INTERPOROSITY FLOW
- TRIPLE POROSITY
- DUAL PERMEABILITY
- RADIAL COMPOSITE

OUTER BOUNDARY CONDITION

- INFINITE SYSTEM
- SINGLE SEALING NO FLOW BOUNDARY
- PARTIALLY SEALING BOUNDARY
- SINGLE CONSTANT PRESSURE BOUNDARY
- TWO INTERSECTING NO FLOW BOUNDARIES (WEDGE GEOMETRY)
- PARALLEL NO FLOW BOUNDARIES (CHANNEL)
- GAS CAP/BOTTOM WATER DRIVE
- CLOSED (NO FLOW) CIRCLE
- CONSTANT PRESSURE CIRCLE
- CLOSED (NO FLOW) RECTANGLE
- CONSTANT PRESSURE RECTANGLE
- MIXED BOUNDARY RECTANGLE

FOR SOME APPLICATIONS, SUCH AS HORIZONTAL AND LAYERED RESERVOIR TESTS, ALL OF THE POSSIBLE COMBINATIONS ARE NOT AVAILABLE. REFERENCES ON MOST MODEL COMPONENTS CAN BE FOUND IN SPE PAPERS.

SIDETRACKED HOLE - CONFIDENTIAL
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL:		OIL WELL <input checked="" type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input type="checkbox"/>	Other _____
b. TYPE OF COMPLETION:					
NEW WELL <input type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	Other <u>Sidetrack</u>
2. NAME OF OPERATOR Petril Exploration, LLC					
3. ADDRESS OF OPERATOR c/o McIlroy & Associates, Inc. 2305 Oxford Lane, Casper, WY 82604					
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 2018' FSL & 1388' FWL (NW NE SW) Sec. 19-37S-25E At top prod. interval reported below @ 5139' TVD (5194' MD) 2109' FSL-1486' FWL (NW NE SW) Sec. 19-T37S-R25E At total depth @ 5143' TVD (5780' MD) (NW NE SW) 2478' FSL-1950' FWL 19-37S-25E					
14. PERMIT NO.		DATE ISSUED			
43-037-31780		9-30-96			
15. DATE SPUDDED 6/6/97	16. DATE T.D. REACHED 6/17/97	17. DATE COMPL. (Ready to prod.) 7/12/97 to Sales		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5022' GL - 5034' KB	
19. ELEV. CASINGHEAD					
20. TOTAL DEPTH, MD & TVD 5780' DRLR	21. PLUG, BACK T.D., MD & TVD 5780' MD 5139' TVD	22. IF MULTIPLE COMPL., HOW MANY* ---		23. INTERVALS DRILLED BY ---	24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Ismay 5194 - 5780 MD 5143 - 5139 TVD
25. WAS DIRECTIONAL SURVEY MADE Yes					26. TYPE ELECTRIC AND OTHER LOGS RUN TDT Log
27. WAS WELL CORED No					

CONFIDENTIAL

28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
All casing	set during	Original Completion			

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8"	4874.88'	

31. PERFORATION RECORD (Interval, size and number) 5084 - 5134' - Squeezed 50 sks Class "G" Open Hole 5005 - 5780' MD 5005 - 5143' TVD				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) 5660-5130 AMOUNT AND KIND OF MATERIAL USED 15% HCl 230 Bbls. CONFIDENTIAL PERIOD EXPIRED			
---	--	--	--	--	--	--	--

33.* PRODUCTION							
DATE FIRST PRODUCTION 7-12-97		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping - 1 1/2" Insert Pump					
DATE OF TEST 7-18-97		HOURS TESTED 24	CHOKE SIZE None	PROD'N. FOR TEST PERIOD 20	OIL—BBL. Est. 146	GAS—MCF. 53	WATER—BBL. 7300
FLOW. TUBING PRESS. 135 psig	CASING PRESSURE 125 psig	CALCULATED 24-HOUR RATE 20		OIL GRAVITY-API (CORR.) 45			

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Vented - Flared		35. LIST OF ATTACHMENTS Directional Survey	
---	--	---	--

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records		
SIGNED <u>Debra J. McIlroy</u>	TITLE <u>Consulting Engineers</u>	DATE <u>8-11-97</u>

RECEIVED
AUG 18 1997
TEST WITNESSED BY
Larry Miller

*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, flowing and shut-in pressures, and recoveries):				38. GEOLOGIC MARKERS			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TOP TRUE VERT. DEPTH	
			<p>Set CIBP @ 5010' KB Started milling window @ 5005'. Drilled with a 4 3/4" hole.</p> <p>CONFIDENTIAL</p>				

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

CONFIDENTIAL

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Dispose of produced Wtr
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is proposed to dispose of produced water from this well by trucking from the well site to the Taos Federal #25-34 (NE, SW, SE Sec. 25-T37S-R24E, Lease U-36490, San Juan Co., UT) water injection well, which is operated by Yates Petroleum Corp. Petral Exploration, LLC owns a Working Interest in this well.

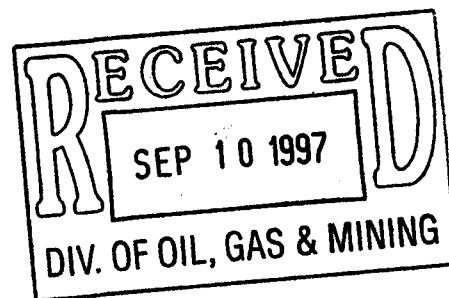
The produced water will be injected into the Ismay Formation. The Taos Federal #25-34 has been permitted as a water disposal well with the BLM and the State of Utah, Natural Resources Oil, Gas & Mining.

Included with this Sundry are water analyses reports.

Accepted by the State
of Utah Division of
Oil, Gas and Mining

Date: 9/16/97

By: [Signature]



14. I hereby certify that the foregoing is true and correct

Signed [Signature]

McIlnay & Associates, Inc.

Title Consulting Engineers

Date 9-5-97

(This space for Federal or State office use)

Approved by _____
Conditions of approval, if any: Action is Necessary

Title _____

Date _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side


ENERGY LABORATORIES, INC.

 P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
 FAX (406) 252-6069 • 1-800-736-4489

Company : Mellinay & Associates	Date : 08/14/97
Field :	Location : KNOCKEDHU #2 RDI Knockardo #2 RDI
County :	Formation :
Lab ID : 97-47546	
Comment : Petral Exploration, LLC	
Description : Light tan turbid sample with colorless clear filtrate	

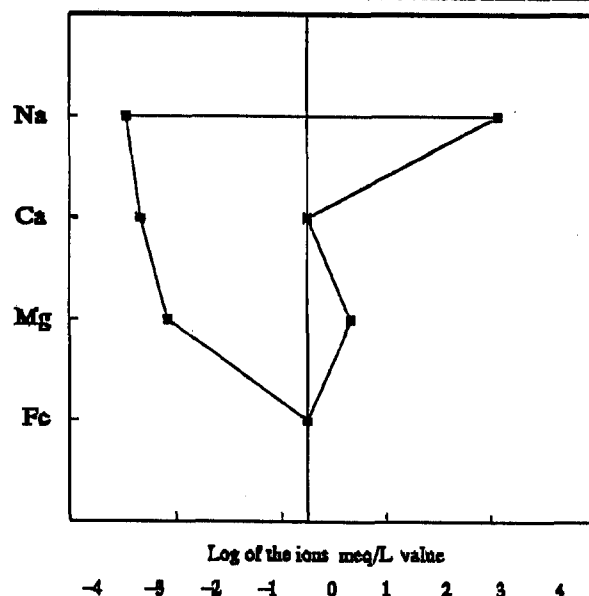
Energy Laboratories, Inc. Water Analysis Report

CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,660.0	42.46	Sulfate	332.0	6.91
Sodium	61,800.0	2,688.15	Chloride	156,000.0	4,400.23
Calcium	29,500.0	1,472.13	Carbonate	0.0	0.00
Magnesium	5,360.0	441.06	Bicarbonate	54.0	0.89
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	98,320.0	4,643.80	SUM -	156,386.0	4,408.03

Solids	Sample Conditions
Total Solids Calculated	255,000 mg/l
Total Solids, NaCl equivalents	252,845 mg/l
Chloride as NaCl	257,160 mg/l
NaCl % of Total Dissolved Solids	57 %
Temperature, °F	81 °F
pH, s.u.	6.10 s.u.
Ionic Strength	5.49 μ
Accuracy	-3.45 Sigma

Other Properties	Scaling Conditions
Calcium Hardness as CaCO_3	73,656.5 mg/l
Magnesium Hardness as CaCO_3	22,068.5 mg/l
Total Hardness as CaCO_3	95,725.0 mg/l
Specific Gravity	1.001 measured
Specific Gravity	1.166 calculated
Resistivity, 68 F	0.053 ohm meter

Microbiological	Scaling Conditions
Sulfate Reducing Bacteria	nd
CaCO_3 : +	CaSO_4 : +
BaSO_4 : -	SrSO_4 : -

Water Analysis Pattern


Calculation error	0 %
Compound	mg/l
NaCl	145,805
CaCl_2	81,258
MgCl_2	20,997
CaSO_4	471
$\text{Ca}(\text{HCO}_3)_2$	72

08/29/97

 NOTE: nd indicates not determined
 v5.25© Michael D. Carney



ENERGY LABORATORIES, INC.

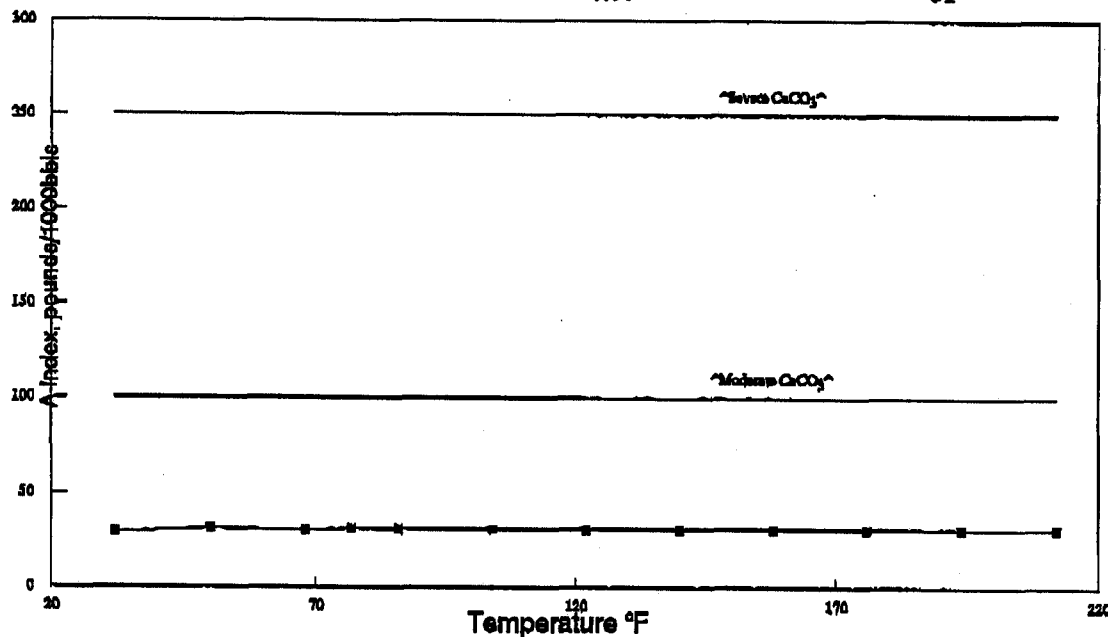
P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-8325
FAX (406) 252-6069 • 1-800-735-4489

Company: McIlroy & Associates	Date: 08/14/97
Field:	Location: KNOCKDHO #2 RDH Knockando #2 RDH
County:	Formation:
Lab ID: 97-47546	
Comment: Petral Exploration, LLC	
Description: Light tan turbid sample with colorless clear filtrate	

Energy Laboratories, Inc. Stiff-Davis Report

Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	1.11	29
10	50	0.00	31
20	68	1.54	30
25	77	0.00	31
30	86	0.00	31
40	104	0.00	31
50	122	0.00	31
60	140	0.00	31
70	158	0.00	31
80	176	0.00	31



Scale calculation parameters	Temperatures
pH: 6.10 s.u.	Surface temperature: 81 °F
Ionic Strength: 5.486 μ	Downhole temperature: 130 °F

NOTE: Stiff Davis Index	NOTE: A Index; Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index > 0-100 Slight scaling.
0 Saturation point, scale unlikely.	- A Index > 100-250 Moderate scaling.
+ Supersaturation, scaling condition.	- A Index > 250+ Severe scaling.



ENERGY LABORATORIES, INC.

P.O. BOX 80916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-8325
FAX (406) 252-8069 • 1-800-735-4489

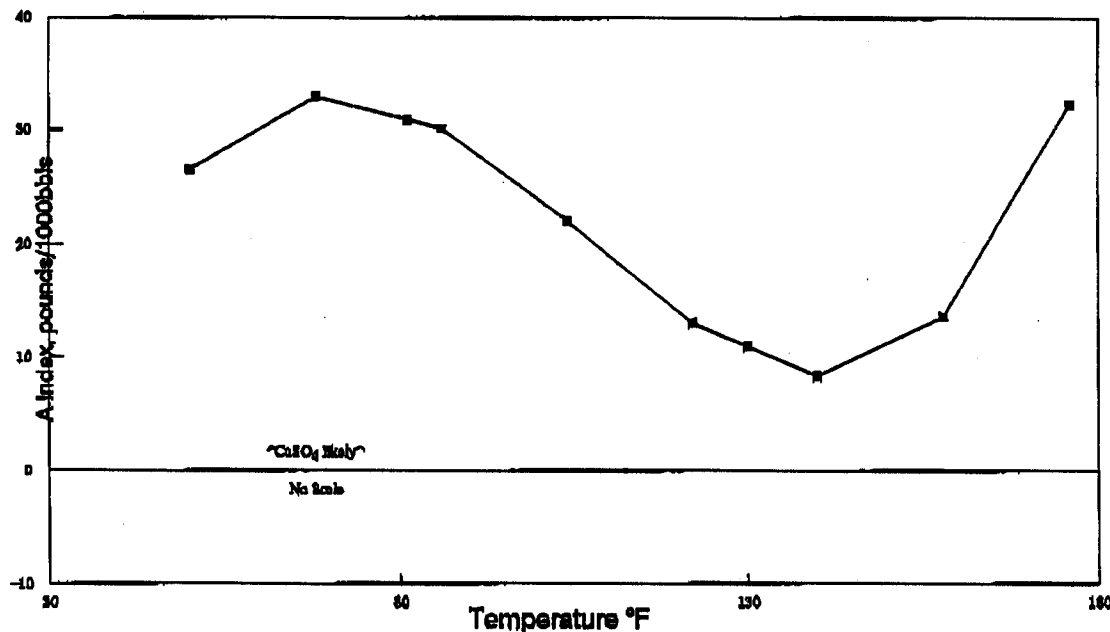
Company : McIlroy & Associates	Date : 08/14/97
Field :	Location : KNOCKDHU #2 RDH Kneekando #2 RDH
County :	Formation :
Lab ID : 97-47546	
Comment : Petral Exploration, LLC	
Description : Light tan turbid sample with colorless clear filtrate	

Energy Laboratories, Inc.

Skillman Method

Calcium Sulfate Scale Precipitation Calculations

Temperature		SOLUBILITY		S		A
C	F	Actual	Calculated	Index		Index
10	50	6.91	5.80	=	1.11	27
20	68	6.91	5.53	=	1.39	33
27	81	6.91	5.62	=	1.30	31
30	86	6.91	5.65	=	1.26	30
40	104	6.91	5.99	=	0.93	22
50	122	6.91	6.37	=	0.55 •	13 •
54	130	6.91	6.45	=	0.46 •	11 •
60	140	6.91	6.56	=	0.35	8
70	158	6.91	6.34	=	0.57	14
80	176	6.91	5.56	=	1.36	32



Scale calculation parameters	Temperatures
pH: 6.10 ±.11	Surface temperature : 81 °F
Ionic Strength : 5.486 μ	Downhole temperature : 130 °F

NOTE: 'S' Index

- Undersaturation, scale negative.
- 0 Saturation point, scale unlikely.
- + Supersaturation, scaling condition.

NOTE: 'A' Index; Assumes 100% precipitation lbs/1000bbls

- A Index ≤ 0 Scale formation negative.
- A Index > 0 Scale formation positive.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

Company : Mellnay & Associates	Date : 08/14/97
Field :	Location : TAUS FED #25-34 SWD
County :	Formation :
Lab ID : 97-47547	
Comment : Petral Exploration. LLC	
Description : Light tan turbid sample with colorless clear filtrate	

Energy Laboratories, Inc. Water Analysis Report

CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,630.0	41.69	Sulfate	682.0	14.20
Sodium	61,400.0	2,670.75	Chloride	134,000.0	3,779.68
Calcium	13,000.0	648.73	Carbonate	0.0	0.00
Magnesium	2,530.0	208.19	Bicarbonate	78.0	1.28
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	78,560.0	3,569.36	SUM -	134,760.0	3,795.16

Solids

Total Solids Calculated	214,000 mg/l
Total Solids, NaCl equivalents	211,298 mg/l
Chloride as NaCl	220,894 mg/l
NaCl % of Total Dissolved Solids	73 %

Sample Conditions

Temperature, °F	81 °F
pH, s.u.	6.40 s.u.
Ionic Strength	4.12 μ
Accuracy	3.83 Sigma

Other Properties

Calcium Hardness as CaCO ₃	32,458.8 mg/l
Magnesium Hardness as CaCO ₃	10,416.2 mg/l
Total Hardness as CaCO ₃	42,875.0 mg/l

Specific Gravity	1.001 measured
Specific Gravity	1.139 calculated
Resistivity, 68 F	0.053 ohm meter

Microbiological

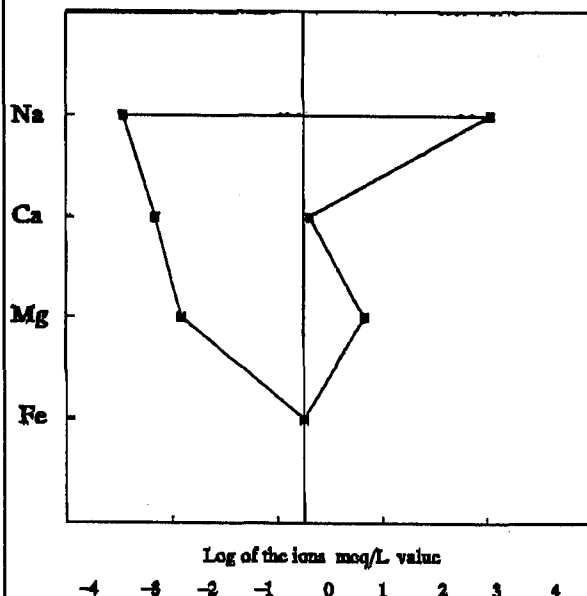
Sulfate Reducing Bacteria	nd
---------------------------	----

Scaling Conditions

CaCO ₃ : +	CaSO ₄ : -
BaSO ₄ : -	SrSO ₄ : -

Water Analysis Pattern

Probable Mineral Residue, Dry



Calculation error 0 %	
Compound	mg/l
NaCl	156,085
CaCl ₂	35,140
MgCl ₂	9,911
KCl	3,108
CaSO ₄	967
Ca(HCO ₃) ₂	104

08/29/97

NOTE: nd indicates not determined
v5.250 Michael D. Cernay


ENERGY LABORATORIES, INC.

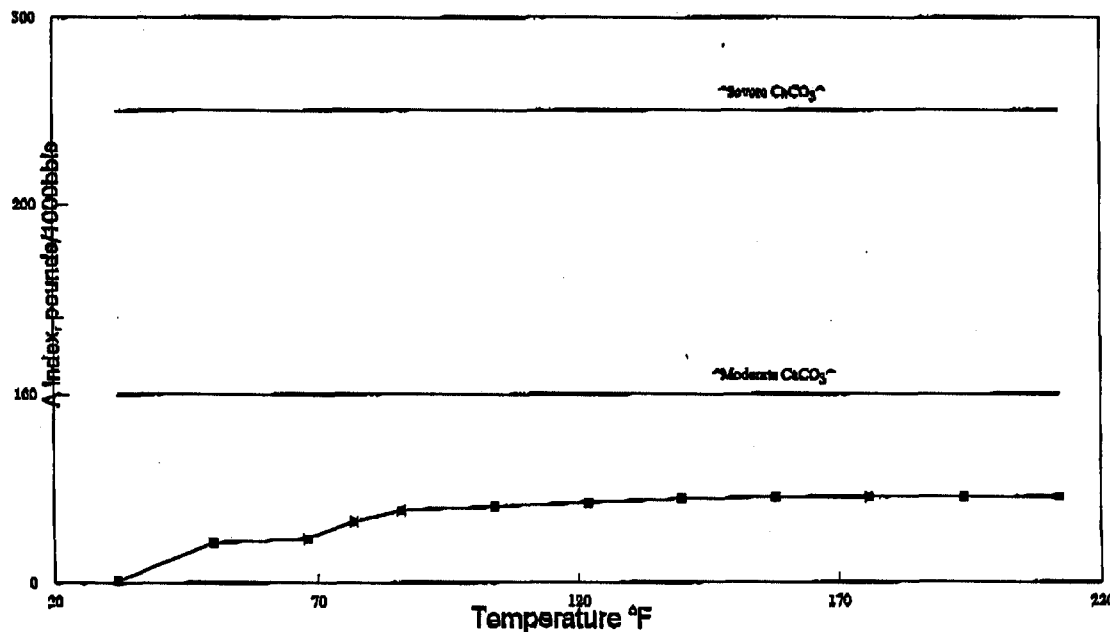
 P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
 FAX (406) 252-6069 • 1-800-735-4489

Company: McIlmoy & Associates	Date : 08/14/97
Field :	Location : TAUS FED #25-34 SWD
County :	Formation :
Lab ID : 97-47547	
Comment : Petral Exploration, LLC	
Description : Light tan turbid sample with colorless clear filtrate	

Energy Laboratories, Inc. Stiff-Davis Report

Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	0.01	1
10	50	0.28	21
20	68	0.33	23
25	77	0.54	32
30	86	0.79	38
40	104	0.95	40
50	122	1.29	42
60	140	1.94	44
70	158	2.42	45
80	176	2.96	45



Scale calculation parameters	Temperatures
pH: 6.40 s.u.	Surface temperature : 81 °F
Ionic Strength : 4.118 μ	Downhole temperature : 130 °F

NOTE: Stiff Davis Index	NOTE: A Index: Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index > 0-100 Slight scaling.
0 Saturation point, scale unlikely.	- A Index > 100-250 Moderate scaling.
+ Supersaturation, scaling condition.	- A Index > 250 + Severe scaling.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6099 • 1-800-735-4489

Company : McInay & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 1	
Comment : Petral Exploration, LLC	
15% Knockdown #2 RDH + 85% TAUS FED #25-34 SWD	
Description : Knockdown	

Energy Laboratories, Inc. Water Analysis Report

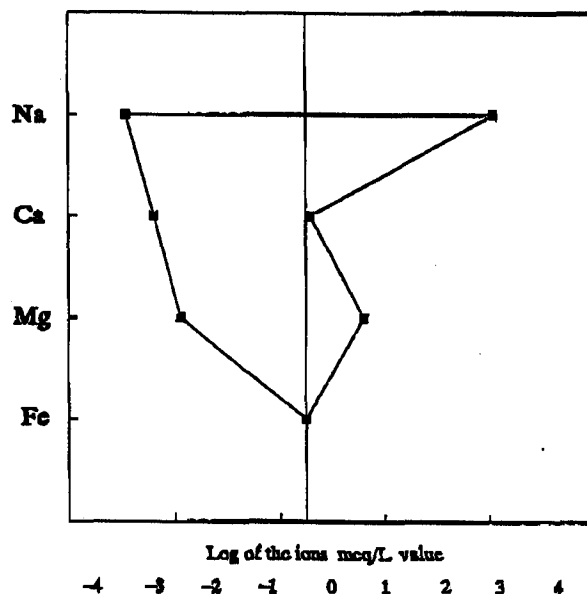
CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,634.5	41.80	Sulfate	629.5	13.11
Sodium	61,460.0	2,673.36	Chloride	137,300.0	3,872.77
Calcium	15,475.0	772.24	Carbonate	0.0	0.00
Magnesium	2,954.5	243.12	Bicarbonate	74.4	1.22
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	81,524.0	3,730.52	SUM -	138,003.9	3,887.10

Solids	Sample Conditions
Total Solids Calculated	220,150 mg/l
Total Solids, NaCl equivalents	217,531 mg/l
Chloride as NaCl	226,334 mg/l
NaCl % of Total Dissolved Solids	71 %
Temperature, °F	81 °F
pH, a.u.	6.40 a.u.
Ionic Strength	4.32 μ
Accuracy	2.59 Sigma

Other Properties	Scaling Conditions
Calcium Hardness as CaCO_3	38,638.5 mg/l
Magnesium Hardness as CaCO_3	12,164.5 mg/l
Total Hardness as CaCO_3	50,803.0 mg/l
Specific Gravity	1.001 measured
Specific Gravity	1.143 calculated
Resistivity, 68 F	0.053 ohm meter

Microbiological	Scaling Conditions
Sulfate Reducing Bacteria	nd
CaCO_3 : +	CaSO_4 : -
BaSO_4 : -	SrSO_4 : -

Water Analysis Pattern Probable Mineral Residue, Dry



Component	mg/L
NaCl	156,238
CaCl_2	42,058
MgCl_2	11,574
KCl	3,117
CaSO_4	892
$\text{Ca}(\text{HCO}_3)_2$	99

08/29/97

NOTE: nd indicates not determined
v5.250 Michael D. Carney

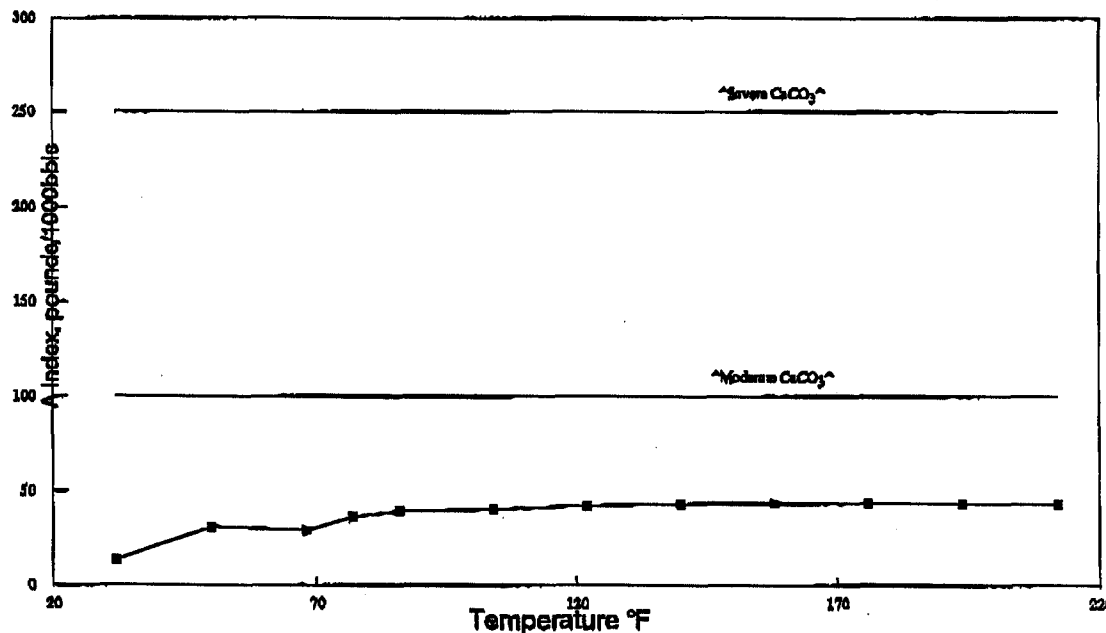

ENERGY LABORATORIES, INC.

 P.O. BOX 90916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
 FAX (406) 252-6069 • 1-800-795-4489

Company: Mellnay & Associates	Date: 08/14/97
Field:	Location:
County:	Formation:
Lab ID: MIX 1	
Comment: Petral Exploration, LLC	
15% KNOCKDHE #2 RDH + 85% TAUS PED #25-34 SWD	
Description: Knockando #2 RDH	

Energy Laboratories, Inc. Stiff-Davis Report
Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	0.17	14
10	50	0.54	31
20	68	0.49	29
25	77	0.78	36
30	86	1.11	39
40	104	1.20	40
50	122	1.56	42
60	140	2.39	43
70	158	2.93	43
80	176	0.00	43



Scale calculation parameters	Temperatures
pH: 6.40 a.u.	Surface temperature: 81 °F
Ionic Strength: 4.323 μ	Downhole temperature: 130 °F

NOTE: Stiff Davis Index

- Undersaturation, scale negative.
- 0 Saturation point, scale unlikely.
- + Supersaturation, scaling condition.

NOTE: A Index; Assumes 100% precipitation lbs/1000bbls

- A Index > 0-100 Slight scaling.
- A Index > 100-250 Moderate scaling.
- A Index > 250+ Severe scaling.



ENERGY LABORATORIES, INC.

P.O. BOX 30918 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0918 • PHONE (406) 252-6325
FAX (406) 252-6089 • 1-800-735-4489

Company : McIlroy & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 2	
Comment : Petral Exploration, LLC	
5% KNOCKDHU #3 + 95% TAUS RED #24-34 SWD	
Description :	

Energy Laboratories, Inc. Water Analysis Report

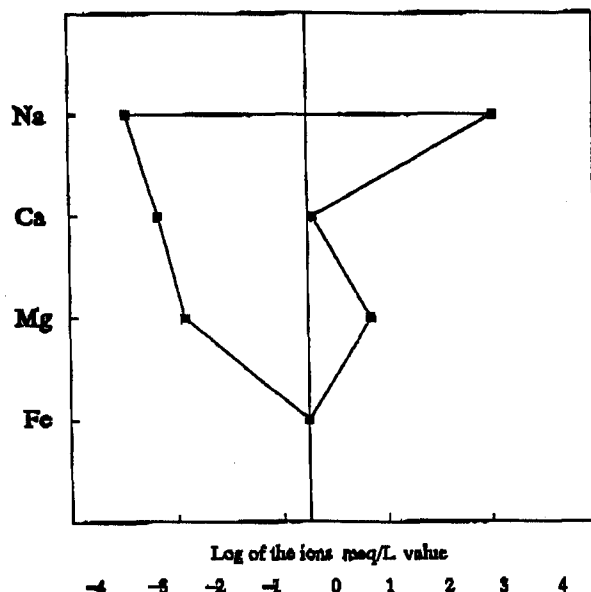
CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,613.0	41.25	Sulfate	773.4	16.11
Sodium	60,695.0	2,640.08	Chloride	133,750.0	3,772.63
Calcium	13,460.0	671.69	Carbonate	0.0	0.00
Magnesium	2,579.0	212.22	Bicarbonate	74.4	1.22
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	78,347.0	3,565.24	SUM -	134,597.8	3,789.96

Solids	Sample Conditions
Total Solids Calculated	213,600 mg/l
Total Solids, NaCl equivalents	210,897 mg/l
Chloride as NaCl	220,482 mg/l
NaCl % of Total Dissolved Solids	72 %
Temperature, °F	81 °F
pH, s.u.	6.40 s.u.
Ionic Strength	4.13 μ
Accuracy	3.82 Sigma

Other Properties	Soaling Conditions
Calcium Hardness as CaCO ₃	33,607.3 mg/l
Magnesium Hardness as CaCO ₃	10,618.7 mg/l
Total Hardness as CaCO ₃	44,226.0 mg/l
Specific Gravity	1.001 measured
Specific Gravity	1.139 calculated
Resistivity, 68 F	0.053 ohm meter

Microbiological	Probable Mineral Residue, Dry
Sulfate Reducing Bacteria	nd
CaCO ₃ : +	CaSO ₄ : -
BaSO ₄ : -	SrSO ₄ : -

Water Analysis Pattern



Compound	mg/l
NaCl	154,293
CaCl ₂	36,312
MgCl ₂	10,103
KCl	3,076
CaSO ₄	1,096
Ca(HCO ₃) ₂	99

08/29/97

NOTE: nd indicates not determined
v5.230 Michael D. Carney


ENERGY LABORATORIES, INC.

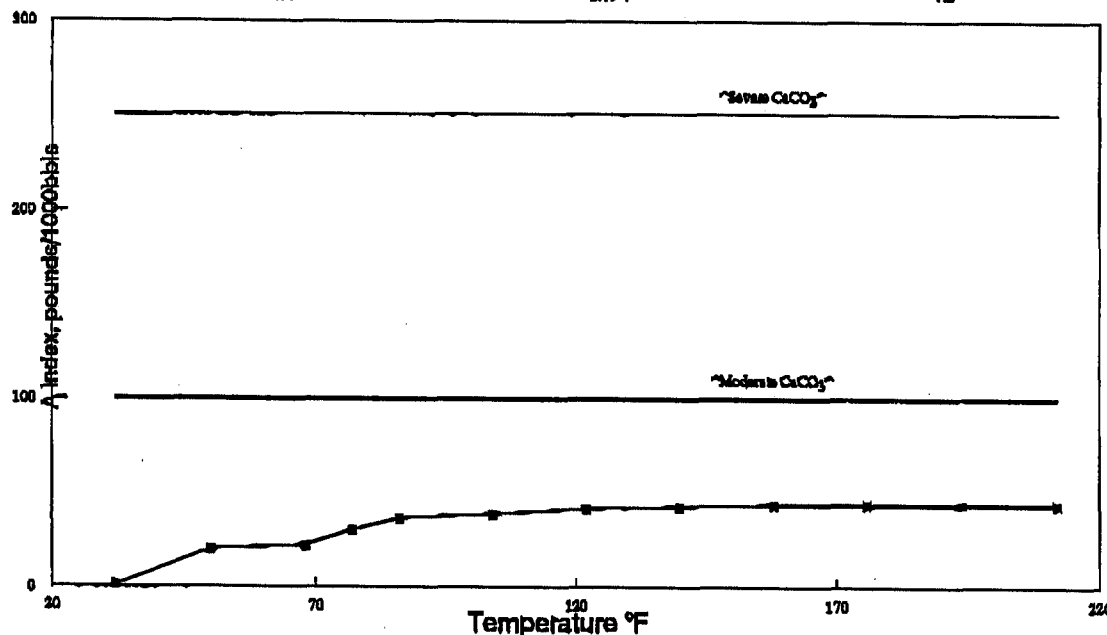
 P.O. BOX 90916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-8325
 FAX (406) 252-8088 • 1-800-735-4489

Company: McIlroy & Associates	Date: 08/14/97
Field:	Location:
County:	Formation:
Lab ID: MIX 2	
Comment: Petral Exploration, LLC	
5% KNOCKDEHU #3 + 95% TAUS FED #24-34 SWD	
Description:	

Energy Laboratories, Inc. Stiff-Davis Report

Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	0.00	1
10	50	0.28	20
20	68	0.32	22
25	77	0.54	30
30	86	0.79	36
40	104	0.95	38
50	122	1.29	41
60	140	1.94	42
70	158	2.43	43
80	176	2.97	43



Scale calculation parameters	Temperatures
pH: 6.40 s.u.	Surface temperature: 81 °F
Ionic Strength: 4.128 μ	Downhole temperature: 130 °F

NOTE: Stiff Davis Index	NOTE: A Index; Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index > 0-100 Slight scaling.
0 Saturation point, scale unlikely.	- A Index > 100-250 Moderate scaling.
+ Supersaturation, scaling condition.	- A Index > 250+ Severe scaling.


ENERGY LABORATORIES, INC.

 P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-8326
 FAX (406) 252-6069 • 1-800-735-4489

Company : McIlroy & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 3	
Comment : Petral Exploration, LLC	
15% KNOCKDHU #2 + 85% TAUS FED #24-84 SWD	
Description :	

Energy Laboratories, Inc. Water Analysis Report

CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,586.5	40.58	Sulfate	633.7	13.20
Sodium	60,545.0	2,633.56	Chloride	135,500.0	3,821.99
Calcium	14,710.0	734.07	Carbonate	0.0	0.00
Magnesium	2,795.5	230.03	Bicarbonate	74.1	1.21
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	79,637.0	3,638.24	SUM -	136,207.8	3,836.40

Solids

Total Solids Calculated	216,400 mg/l
Total Solids, NaCl equivalents	213,894 mg/l
Chloride as NaCl	223,367 mg/l
NaCl % of Total Dissolved Solids	71 %

Other Properties

Calcium Hardness as CaCO ₃	36,728.4 mg/l
Magnesium Hardness as CaCO ₃	11,509.6 mg/l
Total Hardness as CaCO ₃	48,238.0 mg/l

Microbiological

Sulfate Reducing Bacteria	nd
---------------------------	----

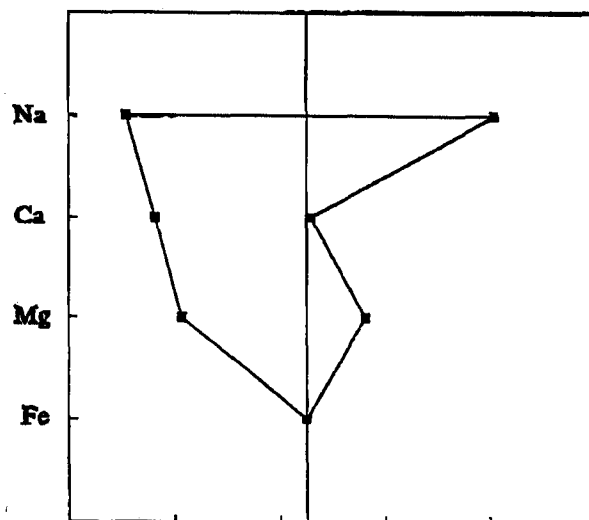
Sample Conditions

Temperature, °F	81 °F
pH, s.u.	6.30 s.u.
Ionic Strength	4.23 μ
Accuracy	3.33 Sigma

Specific Gravity	1.001 measured
Specific Gravity	1.141 calculated
Resistivity, 68 F	0.053 ohm meter

Scaling Conditions

CaCO ₃ : +	CaSO ₄ : -
BaSO ₄ : -	SrSO ₄ : -

Water Analysis Pattern
Probable Mineral Residue, Dry


Calculation error 0 %	
Compound	mg/l
NaCl	153,912
CaCl ₂	39,935
MgCl ₂	10,951
KCl	3,025
CaSO ₄	898
Ca(HCO ₃) ₂	98

08/29/97

 NOTE: nd indicates not determined
 v5.25© Michael D. Carney


ENERGY LABORATORIES, INC.

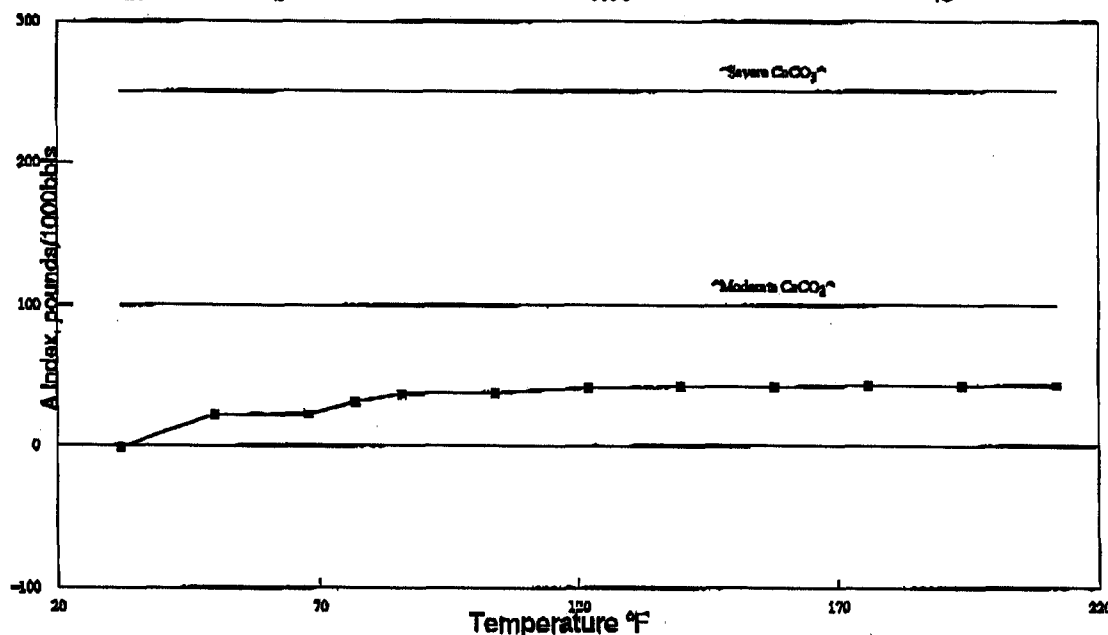
P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

Company: Mellnay & Associates	Date: 08/14/97
Field:	Location:
County:	Formation:
Lab ID: MIX 3	
Comment: Petral Exploration, LLC	
15% KNOCKDHU #2 + 85% TAUS FED #24-34 SWD	
Description:	

Energy Laboratories, Inc. Stiff-Davis Report

Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	-0.01	-1
10	50	0.32	22
20	68	0.31	22
25	77	0.57	31
30	86	0.85	37
40	104	0.98	38
50	122	1.33	41
60	140	2.07	42
70	158	2.58	42
80	176	0.00	43



Scale calculation parameters	Temperatures
pH: 6.30 a.u.	Surface temperature: 81 °F
Ionic Strength: 4.226 μ	Downhole temperature: 130 °F

NOTE: Stiff Davis Index	NOTE: A Index; Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index > 0-100 Slight scaling.
0 Saturation point, scale unlikely.	- A Index > 100-250 Moderate scaling.
+ Supersaturation, scaling condition.	- A Index > 250 + Severe scaling.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

Company : Mellnay & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 4	
Comment : Petral Exploration, LLC	
Knockdhu 15% KNOCKDHU #2 RDH + 5% KNOCKDHU #3	
Description : + 15% KNOCKDHU #2 + 65% TAUS FED #24-84 SWD	

Energy Laboratories, Inc. Water Analysis Report

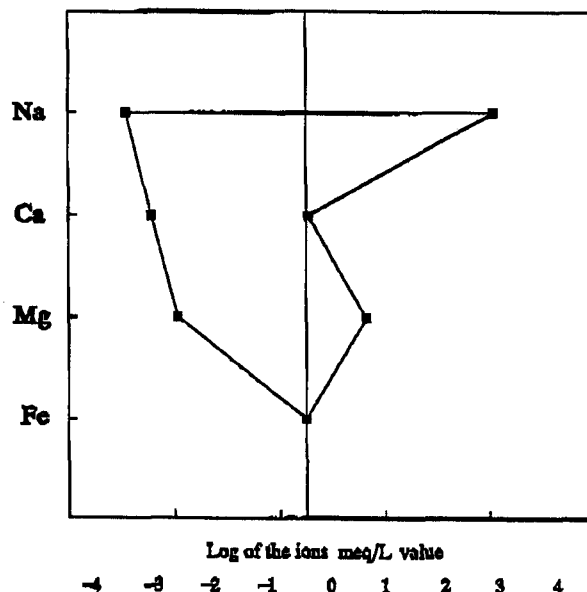
CATIONS	mg/l	meq/l	ANIONS	mg/l	meq/l
Potassium	1,574.0	40.26	Sulfate	672.6	14.01
Sodium	59,900.0	2,605.50	Chloride	138,550.0	3,908.02
Calcium	17,645.0	880.53	Carbonate	0.0	0.00
Magnesium	3,269.0	269.00	Bicarbonate	66.9	1.10
Iron	nd	nd	Hydroxide	0.0	0.00
Barium	nd	nd	-	-	-
Strontium	nd	nd	-	-	-
SUM +	82,388.0	3,795.29	SUM -	139,289.5	3,923.15

Solids	Sample Conditions
Total Solids Calculated	222,150 mg/l
Total Solids, NaCl equivalents	219,723 mg/l
Chloride as NaCl	228,394 mg/l
NaCl % of Total Dissolved Solids	69 %
Temperature, °F	81 °F
pH, s.u.	6.30 s.u.
Ionic Strength	4.44 μ
Accuracy	2.10 Sigma

Other Properties	Specific Gravity
Calcium Hardness as CaCO ₃	44,056.6 mg/l
Magnesium Hardness as CaCO ₃	13,459.4 mg/l
Total Hardness as CaCO ₃	57,516.0 mg/l
Specific Gravity	1.001 measured
Specific Gravity	1.144 calculated
Resistivity, 68 F	0.053 ohm meter

Microbiological	Scaling Conditions
Sulfate Reducing Bacteria	nd
CaCO ₃ : +	CaSO ₄ : +
BaSO ₄ : -	SrSO ₄ : -

Water Analysis Pattern



Compound	mg/L
NaCl	152,272
CaCl ₂	48,024
MgCl ₂	12,806
KCl	3,001
CaSO ₄	953
Ca(HCO ₃) ₂	89

08/29/97

NOTE: nd indicates not determined
v5.250 Michael D. Carney

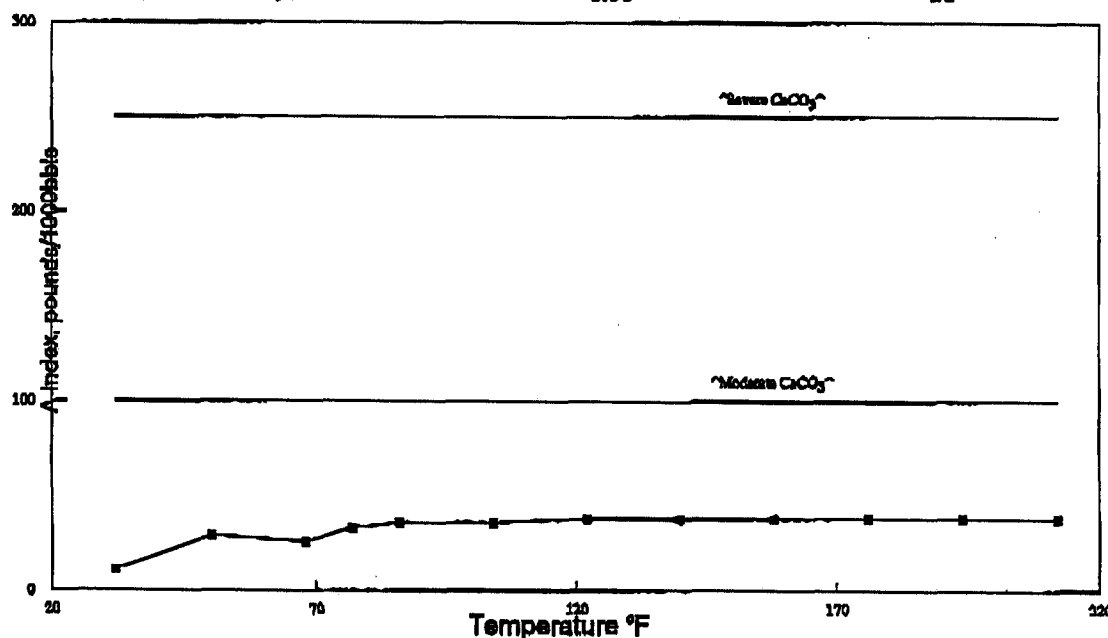

ENERGY LABORATORIES, INC.

 P.O. BOX 90918 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0918 • PHONE (406) 252-5325
 FAX (406) 252-6068 • 1-800-735-4489

Company: Mellinay & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 4	
Comment : Petral Exploration, LLC - Knockdhu	
15% KNOCKDHU #2 RDH + 5% KNOCKDHU #3	
Description : + 15% KNOCKDHU #2 + 65% TAUS FED #24-84 SWD	

Energy Laboratories, Inc. Stiff-Davis Report
Calcium Carbonate Scale Precipitation Calculations

Temperature		Stiff-Davis	Aggressivity
C	F	Index	Index
0	32	0.15	11
10	50	0.60	29
20	68	0.48	26
25	77	0.82	33
30	86	1.20	36
40	104	1.24	36
50	122	1.61	38
60	140	2.57	38
70	158	0.00	38
80	176	0.00	38



Scale calculation parameters	Temperatures
pH: 6.30 s.u.	Surface temperature : 81 °F
Ionic Strength : 4.441 μ	Downhole temperature : 130 °F

NOTE: Stiff Davis Index	NOTE: A Index: Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index > 0-100 Slight scaling.
0 Saturation point, scale unlikely.	- A Index > 100-250 Moderate scaling.
+ Supersaturation, scaling condition.	- A Index > 250+ Severe scaling.

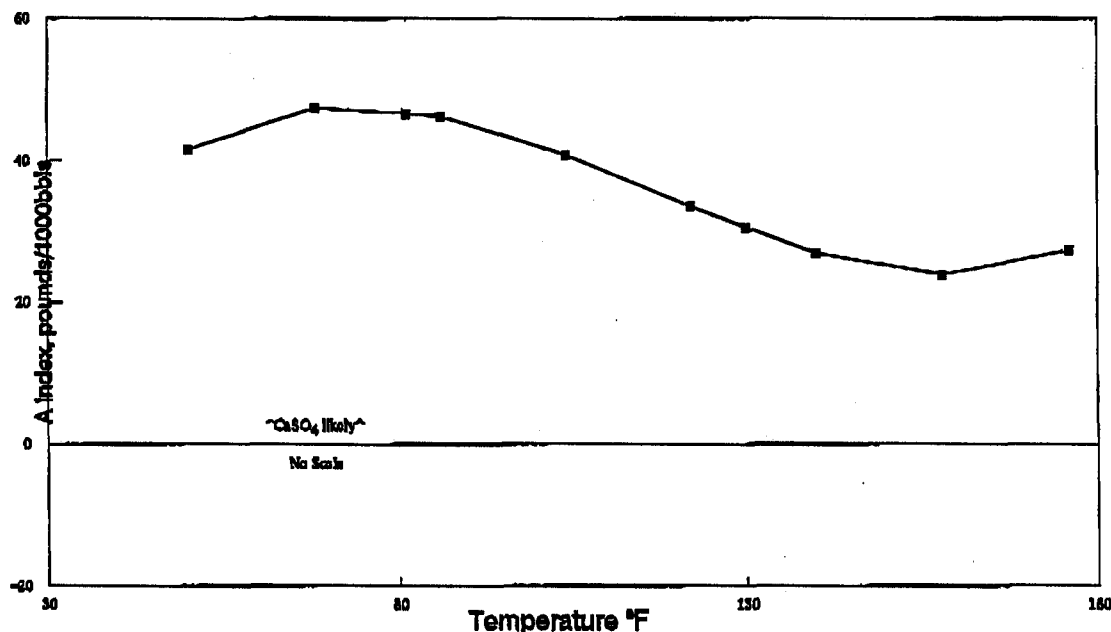

ENERGY LABORATORIES, INC.

 P.O. BOX 30916 • 1120 SOUTH 27TH STREET • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
 FAX (406) 252-6086 • 1-800-735-4489

Company : McIlroy & Associates	Date : 08/14/97
Field :	Location :
County :	Formation :
Lab ID : MIX 4	
Comment : Petral Exploration, LLC, Knecko code #2, RDH	
15% KNOCKDHU #2 RDH + 5% KNOCKDHU #3	
Description : + 15% KNOCKDHU #2 + 65% TAUS FED #24-84 SWD	

Energy Laboratories, Inc. Skillman Method
Calcium Sulfate Scale Precipitation Calculations

Temperature		SOLUBILITY		S		A
C	F	Actual	Calculated	Index		Index
10	50	14.01	12.26	=	1.75	42
20	68	14.01	12.02	=	1.99	47
27	81	14.01	12.05	=	1.95	47
30	86	14.01	12.07	=	1.94	46
40	104	14.01	12.30	=	1.71	41
50	122	14.01	12.60	=	1.40	33
54	130	14.01	12.73	=	1.28	31
60	140	14.01	12.88	=	1.13	27
70	158	14.01	13.01	=	1.00	24
80	176	14.01	12.87	=	1.14	27



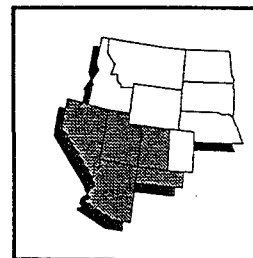
Scale calculation parameters	Temperatures
pH: 6.30 s.u.	Surface temperature : 81 °F
Ionic Strength : 4.441 μ	Downhole temperature : 130 °F

NOTE: 'S' Index	NOTE: 'A' Index; Assumes 100% precipitation lbs/1000bbls
- Undersaturation, scale negative.	- A Index ≤ 0 Scale formation negative.
0 Saturation point, scale unlikely.	- A Index > 0 Scale formation positive.
+ Supersaturation, scaling condition.	

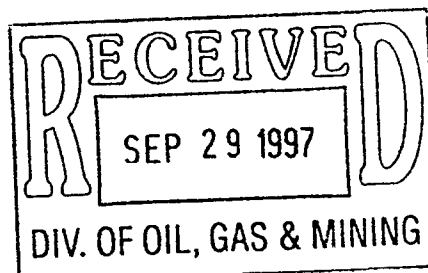


ROCKY MOUNTAIN

REGION REPORT



FOUR CORNERS EDITION



Vol. 70, No. 185
9-24-97

SRB
/

49-037-31780

Petral Completes Horizontal Ismay Discovery in Southern Paradox Basin

DENVER-BASED PETRAL Exploration LLC has completed a horizontal Ismay discovery about 15 miles southeast of Blanding in southeastern Utah pumping 20 bbls of 45° oil with 146,000 cu ft of gas and 53 bbls of water daily.

The 2 Knockando Unit, ne sw 19-37s-25e, San Juan County, is producing from an open-hole horizontal Ismay interval between 5194 and 5780 ft (5139-43 ft true vertical depths).

The 5780-ft well originally was vertically drilled to 5447 ft to evaluate an Upper Ismay mound, and shut in due to excessive water production. Petral then reentered the well, cut a casing window at 4985 ft, and drilled a north-northeastward lateral (azimuth: 28.2°) to a bottom-hole location also in ne sw of the section. Total horizontal displacement is about 780 ft. The projected lateral was to be

drilled above the oil/water contact found at 5162 ft (RMRR 6-18-97).

The discovery offsets to the southwest Petral's 1 Knockando Unit, se nw 19-37s-25e, which was completed in August 1996 as a 5446-ft dry

hole. The company has locations staked for two Ismay tests about three quarters of a mile west of the horizontal producer at the 1 Aultmore-Fed-

(Please see Petral, Page 6)

Morrow Test Staked Near Eads Colorado

AMERICAN PIONEER Exploration, Golden, Colorado, has scheduled a 5130-ft Morrow test on the Las Animas Arch about seven miles north of Eads in southeastern Colorado.

The 1-15 Rush Creek, se ne 15-17s-48w, northern Kiowa County, will be drilled by a Kudu Drilling rig a mile southwest of deeper Spergen oil production in Quiver field. A little more than a mile to the north is an inactive Morrow producer in the Quiver field area—Yellowstone Resources' 2-10 Dunlap in sw ne 10-17s-48w. That 5030-ft well was completed in 1991 for an initial pumping potential of 195 bbls of oil and 281 bbls of water per day from Morrow at 4918-20 ft. The top of Morrow was logged at 4780 ft from a kelly bushing elevation of 4231 ft.

The closest current production from Morrow is about 12 miles to the east, in Arrowhead field, a gas/condensate pool.

NEWSLETTER
DAILY ACTIVITY REPORT
WESTERN COLORADO
UTAH
NEW MEXICO
ARIZONA & NEVADA

SECTION I
SECTION II
SECTION III
SECTION IV
SECTION V
SECTION VI



**Petroleum Information/
Dwights LLC**

P.O. Box 2612, Denver, CO 80201-2612, 303/595-7500
Copyright 1997 Petroleum Information/Dwights LLC

Red River Tests Staked on North Dakota's Billings Nose

BILLINGS INDEPENDENT JN Exploration & Production Ltd has scheduled two exploratory tests targeting Red River on the Billings Nose of western North Dakota in an area 5-6 miles north-northwest of Belfield.

The Billings County wildcats are the 14-1X JN-Federal, sw sw 1-140n-100w, and—a mile to the south—the 14-12X JN-Federal, sw sw 12-140n-100w. They will be drilled at exception locations on 320-acre spacing units comprising sw 1 and nw 12-140n-100w, and sw 12 and nw 13-140n-100w, respectively (RMRR 8-20-97).

The sites are 2-3 miles southeast of the abandoned Park field discovery, the Adobe Oil & Gas 23-31X Luptak in nesw 31-141n-99w. That 13,460-ft well produced 34,740 bbls of oil, 25.1 million cu ft of gas and 57,810 bbls of water from Fryburg (Madison) at 9618-24 ft between November 1982 and October 1985. It was then recompleted in the deeper Red River and produced about 163.5 million cu

ft of gas, 5,100 bbls of condensate and 15,700 bbls of water from 12,820-12,842 ft between October 1985 and January 1991.

Log tops at the 23-31X Luptak, measured from a Kelly bushing elevation of 2734 ft, include Fryburg at 9618 ft, Nisku 10,944, Red River 12,653, Red River "B" 12,709, Red

River "C" 12,811, Red River "D" 12,854 and Winnipeg at 13,247 ft.

Whiskey Joe field, approximately five miles to the west, currently produces oil and gas from Madison and has produced a small amount of oil from Duperow. There is no current production from Red River in the vicinity.

(Petal, from Page 6)

eral and 1-24X Aultmore, both in nesw 24-37s-24e. No activity has been reported at either of those sites.

The area is nearly two miles north of Cazador field, a northwest-southeast trending Ismay/Desert Creek pool.

About three miles to the southeast, Petral last year completed an Upper Ismay discovery flowing 2,380,000 cu ft of gas and 30 bbls of

52° condensate daily. That wildcat, the 1 Knockdhu-Federal in nw ne 33-37s-25e, was tested in Upper Ismay between 5684 and 5740 ft.

Petal earlier this year confirmed the discovery with the completion of the 2 Knockdhu Unit, nw se 33-37s-25e, flowing 41 bbls of 45° oil, 169,000 cu ft of gas and 107 bbls of water per day from a treated Ismay interval at 5550-58 and 5568-79 ft.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.

2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

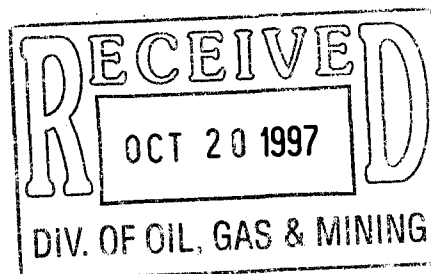
TYPE OF ACTION

☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Site Security Diagram
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Attached is the Site Security Diagram and Site Security Plan.



14. I hereby certify that the foregoing is true and correct

Signed [Signature]

McIlnay & Associates, Inc.

Title Consulting Engineers

Date October 15, 1997

(This space for Federal or State office use)

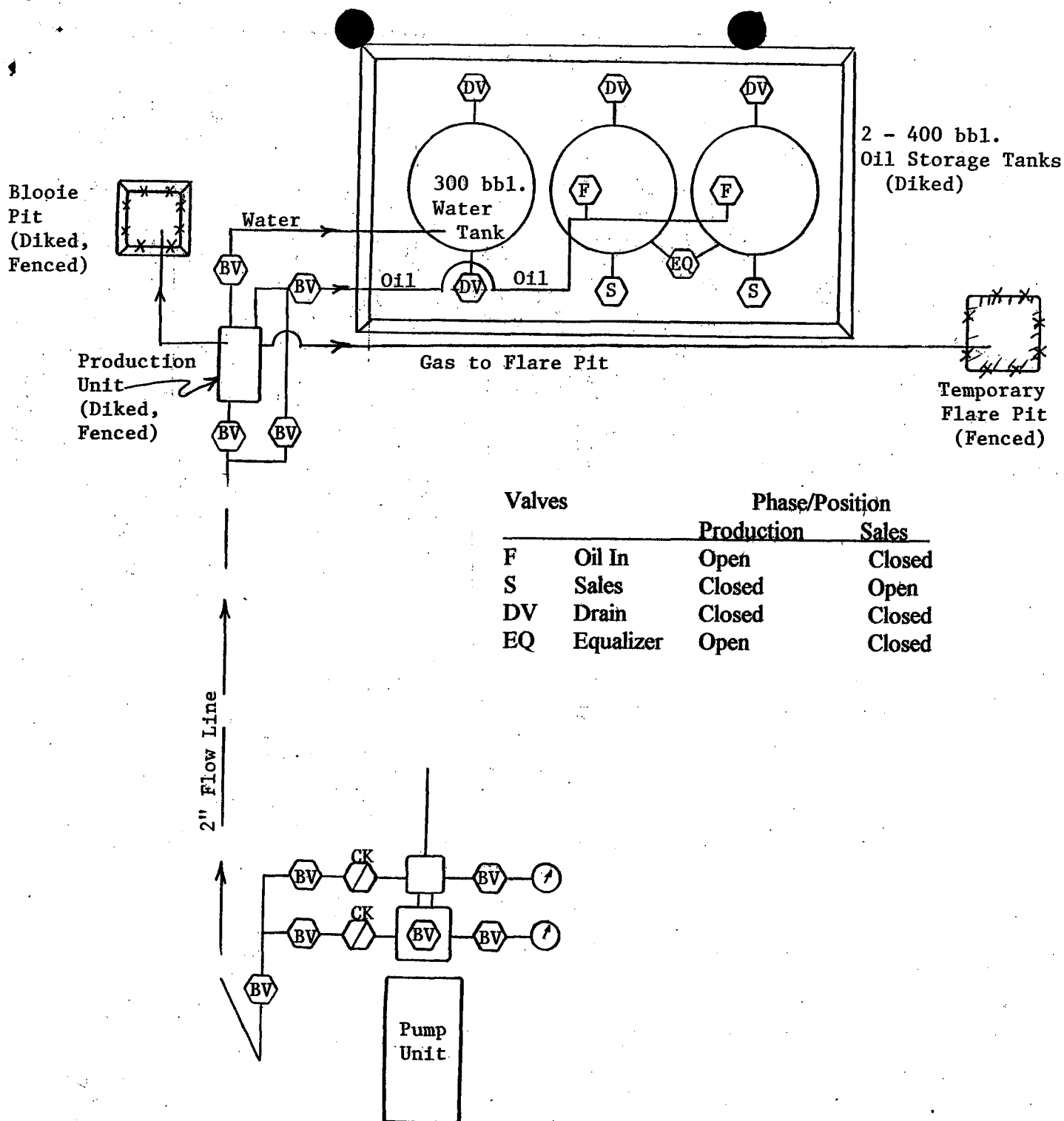
Approved by _____
Conditions of approval, if any:

Title _____

Date _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side



FACILITY DIAGRAM

Petral Exploration, LLC

#2 Knockando

Lease No. UTU 75897

NW NE SW Sec. 19-T37S-R25E

San Juan Co., UT

SITE SECURITY PLAN

Petral Exploration, LLC
Paradox Basin Project

1. Self Inspection Program: The lease will be inspected on a daily basis and production volumes recorded. All valves requiring seals will be sealed.
2. A record will be made of the seals used including the serial number, date on, date off, and description of use. All sales will be documented by complete and accurate run tickets.
3. Any incidents of theft or mishandling of oil will be reported no later than the next business day to the authorized officer. All oral reports shall be followed up with a written report within 10 business days. The incident report shall supply the following:
 - a. Company Name and name of the individual reporting the incident.
 - b. Lease number, communitization agreement number, or unit agreement name and number and participating area, as appropriate.
 - c. Legal location of the facility where the incident occurred.
 - d. The estimated volume of oil or condensate removed.
 - e. The way access was obtained to the production or how the mishandling occurred.
 - f. The individual who discovered the incident.
 - g. Date and time of the discovery of the incident.
 - h. Whether the incident was or was not reported to local law enforcement agencies and company security.
4. Lease inspection to ensure that there are no by-passes of meters.
5. Leases, communitization agreements, unit agreements, and specific facilities that are subject to this plan: Knockdhu Unit No. UTU - 75040X, Lease Nos. UTU 75521, UTU 18452A, Knockando Lease No. UTU - 065915, UTU - 075897 and all other Petral operated wells on BLM leases in the San Juan Resource Area, (Moab & Monticello Offices).
6. Authorized Officers:

Monticello BLM Office, San Juan Resource Area, 435 No. Main, Monticello, UT 84535, Phone (801)587-2141; Attn.: Gary Torres, Jeff Brown.

Moab District Office, 82 Dogwood, Ste. M, Moab, UT 84532, Phone (801)259-6111; Attn: Eric Jones

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

CONFIDENTIAL

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Petral Exploration, LLC

3. Address and Telephone No. c/o McIlnay & Associates, Inc.
2305 Oxford Lane, Casper, WY 82604

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
2018' FSL & 1388' FWL Sec. 19-T37S-R25E, (NW NE SW) Surf. Loc.
BHL - 2478' FSL & 1950' FWL, Sec. 19-T37S-R25E (NW NE SW)

5. Lease Designation and Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

NA

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

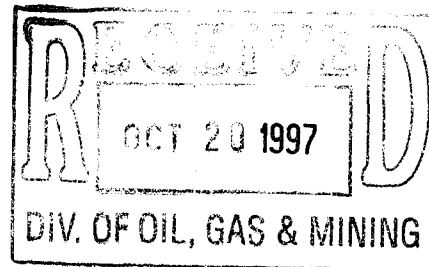
- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Suspend Production
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is proposed to temporarily suspend production operations on this well while the well is being evaluated. The well will be periodically inspected by the pumper while it is shut-in.

CONFIDENTIAL



14. I hereby certify that the foregoing is true and correct

Signed Benjamin J. [Signature]

McIlnay & Associates, Inc.

Title Consulting Engineers

Date October 15, 1997

(This space for Federal or State office use)

Approved by _____
Conditions of approval, if any:

Title _____

Date _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or reenter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA/Agreement, Name and/or No.

N/A

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, Utah

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC c/o ENMARC, INC. (E.K. Bostick)

3a. Address

P.O. Box 7638, Loveland, CO 80537

3b. Phone No. (include area code)

(970) 663-7576

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface: 2018' FSL & 1388' FWL Sec. 19 T37S R25E

BHL: 2478' FSL & 1950' FWL Sec. 19 T37S R25E

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize <input type="checkbox"/> Deepen <input type="checkbox"/> Production (Start/Resume) <input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Reclamation <input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair <input type="checkbox"/> New Construction <input type="checkbox"/> Recomplete <input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans <input checked="" type="checkbox"/> Plug and Abandon <input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Convert to Injection <input type="checkbox"/> Plug Back <input type="checkbox"/> Water Disposal

13. Describe Proposed or Completed Operations (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once Testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

See attached plug and abandon procedure and well bore schematics.

cc: 3 - BLM Moab

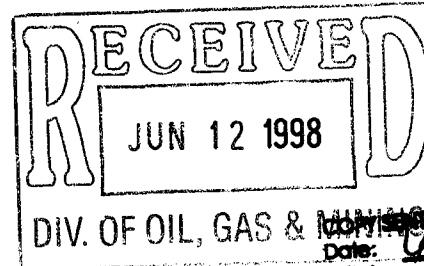
1 - BLM Monticello

1 - Utah Division of Oil, Gas & Mining

Accepted by the
Utah Division of
Oil, Gas and Mining

Date:

6-24-98



14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

E.K. Bostick

Title

Agent for Petral Exploration LLC

Signature

E.K. Bostick

Date

June 10, 1998

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

PLUG & ABANDONMENT PROCEDURE

Knockando Unit #2

Ismay

Sec. 19 – T37S – R25E

San Juan Co., Utah

Note: Cement volume for Plug #1 (Ismay Plug) was calculated using 100% excess cement outside casing and 50' excess cement inside casing. Plug #2 & #3 cement volumes were calculated using actual 100' volumes inside casing and 100' volumes plus 20% in open hole. Plug #4 (Surface Plug) cement volume was designed using the standard 20 sack Plug the BLM has requested in previous drilling rig plug & abandonment procedures. The stabilizing wellbore fluid will be 10.0 ppg mud, sufficient to balance all exposed formation pressures.

1. Install and test location rig anchors. Prepare blow pit. Comply to all BLM, State of Utah and Petral Exploration LLC regulations.
2. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. Make up relief line. Blow down well and kill with water as necessary. Unseat pump. POOH and LD rod string and pump. Kill well with water as necessary. Put all recovered oil in test tank. ND tubing bonnet with pumping tee. NU and test BOP.
3. Release TAC. POOH and tally 2 3/8" tubing. LD TAC and SN. RU wireline unit. RIH with 4 3/4" OD gauge ring to 4865'KB. PU and RIH with cement retainer for 5 1/2" casing on 2 3/8" tubing. Set retainer at 4865'KB. Circulate hole clean with water. Pressure test tubing to 2000psi. and casing to 500psi.
4. **Plug #1 (Ismay 4768' – 5294')**. Establish injection rate into formation with water. Mix & pump 75sx Class "B" cement, placing 64sx below and 11sx above the retainer. PUH to 4765'KB. Pump, spot and balance 10.0 ppg mud 4765' – 3550'KB. POOH with tubing and retainer setting tool. LD retainer setting tool.
5. **Plug #2 (Casing Stub 3450' – 3650')**. RD floor. ND BOP and tubing head. Remove casing slips. NU BOP. RU electric line truck and find casing free point (+/- 3550'KB). RIH with 5 1/2" casing cutter and cut casing at free point (3500'KB+/-). POOH and LD 5 1/2" casing. RIH with 2 3/8" tubing to 100' below cut off 5 1/2" casing stub (3500'+/-). Mix, pump and spot 73sx class "B" cement with 2% CaCl balanced plug (200' cement plug). PUH to 3445'+/-. Reverse tubing clean. Balance 10.0 ppg mud 3445' – 2600'. WOC. Tag TOC. PUH to 2600'.
6. **Plug #3 (Surface Casing Shoe 2600' – 2400')** Mix, pump and spot 92sx class "B" cement with 2% CaCl balanced plug (200' cement plug). PUH to 2395'+/-. Reverse tubing clean. Displace tubing and surface casing with 10.0 ppg mud 2395' – surface. WOC. Tag TOC. PUH to 66'+/-.
7. **Plug #4 (Surface Plug 66' – surface)** Mix and pump 20sx class "B" cement with 2% CaCl. Circulate good cement to surface. POOH. WOC.
8. **ND BOP** and cut off wellhead approximately 4' below ground level. Cap surface casing and install P&A marker to comply with federal regulations. RD pulling unit, MOL, cut off or remove location rig anchors and reclaim road and location

PETRAL EXPLORATION LLC

#2 Knockando Unit

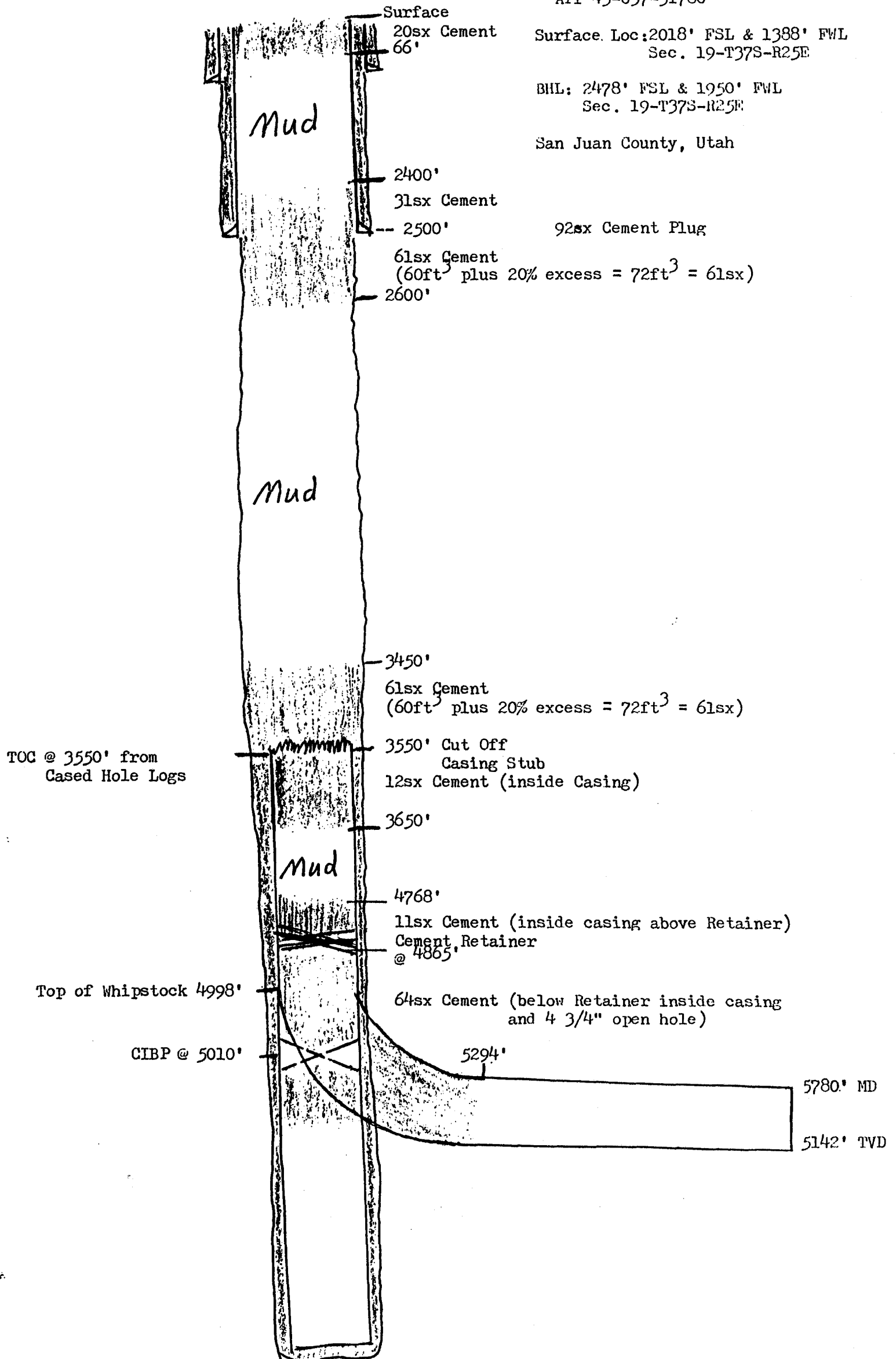
UTU-043651

API 43-037-31780

Surface Loc: 2018' FSL & 1388' FWL
Sec. 19-T37S-R25E

BHL: 2478' FSL & 1950' FWL
Sec. 19-T37S-R25E

San Juan County, Utah



PLUG & ABANDONMENT PROCEDURE

Alternate Plan "B"

Knockando Unit #2

Ismay

Sec. 19 – T37S – R25E

San Juan Co., Utah

Note: Cement volume for Plug #1 (Ismay Plug) and Plug #2 (Surface Casing Shoe) was calculated using 100% excess cement outside casing and 50' excess cement inside casing. Plug #3 (Surface Plug) cement volume was designed using the standard 20 sack Plug the BLM has requested in previous plug & abandonment procedures. The stabilizing wellbore fluid will be 10.0 ppg mud, sufficient to balance all exposed formation pressures.

1. Install and test location rig anchors. Prepare blow pit. Comply to all BLM, State of Utah and Petral Exploration LLC regulations.
2. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. Make up relief line. Blow down well and kill with water as necessary. Unseat pump. POOH and LD rod string and pump. Kill well with water as necessary. Put all recovered oil in test tank. ND tubing bonnet with pumping tee. NU and test BOP.
3. Release TAC. POOH and tally 2 3/8" tubing. LD TAC and SN. RU wireline unit. RIH with 4 3/4" OD gauge ring to 4865'KB. PU and RIH with cement retainer for 5 1/2" casing on 2 3/8" tubing. Set retainer at 4865'KB. Circulate hole clean with water. Pressure test tubing to 2000psi. and casing to 500psi.
4. **Plug #1 (Ismay 4768' – 5294')**. Establish injection rate into formation with water. Mix & pump 75sx Class "B" cement, placing 64sx below and 11sx above the retainer. PUH to 4765'KB. Reverse circulate tubing clean. Pump, spot and balance 10.0 ppg mud 4765' – 3550'KB. POOH with tubing and retainer setting tool. LD retainer setting tool.
5. **Plug #2 (Casing Stub 3450' – 3650')**. RD floor. ND BOP and tubing head. Remove casing slips. NU BOP. RU electric line truck and find casing free point (+/- 3550'KB). If the free point indicates the 5 1/2" casing is stuck up hole making casing recovery efforts uneconomical the well will be plugged and abandoned using the perforate and squeeze method. ND BOP. Set the 5 1/2" casing slips. NU BOP. RU floor.
6. **Plug #2 (Surface Casing Shoe 2077' – 2560')**. Perforate 3 holes at 2560'. PU and RIH with a cement retainer for 5 1/2" casing on 2 3/8" tubing. Set retainer at 2510'KB. Establish rate into perfs with water. Mix and pump 148sx class "B" cement with 2% CaCl placing 96sx below the retainer and 52sx above the retainer. PUH to 2335'. Reverse circulate tubing clean. Balance 10.0 ppg mud 2335' – surface. POOH and LD retainer setting tool.
7. **Plug #4 (Surface Plug 60' – surface)**. Perforate 2 holes at 60'. Establish circulation to surface with water. Mix and pump 20sx class "B" cement with 2% CaCl. Circulate good cement to surface. WQC.
8. **ND BOP** and cut off wellhead and 5 1/2" casing approximately 4' below ground level. Cap 5 1/2" casing and surface casing. Install P&A marker to comply with federal regulations. RD pulling unit, MOL, cut off or remove location rig anchors and reclaim road and location

PETRAL EXPLORATION LLC

P&A PROCEDURE
Alternate Plan "B"

2 Knockando Unit, UTU 043651

API 43-037-31780

Surface Loc. 2018' FSL & 1388' FWL Sec. 19 - T37S - R25E

BHL: 2478' FSL & 1950' FWL Sec. 19 T37S R25E

San Juan Co, Utah

Casing:

16" Conductor sat @ 53' KB

Cemented w/ 3 yards Ready Mix Cement

Surface Casing:

31 Jls. 8 5/8", 24#, J-55, ST&C

Landed @ 2510.25' KB

Cemented w/ 1320 sks. (to surface)

Production Casing:

130 Jls. 5 1/2", 15.5#, J-55, LT&C

Landed @ 5443.70' KB

Cemented W/ 52 sks. 64/35 G - Poz Cement w/ add.

and 423 sks. 50/50 G - Poz Cement w/ add.

Top of Cement @ 3550'

CIBP @ 5010' Set 6-11-97

Top of Whipstock @ 4998'

20sx Cmt. in 5 1/2" Csg. & 8 5/8" Annulus
60'
MUD
2077'
70.7sx Cement in 5 1/2" X 8 5/8" Ann. Retainer @ 2510'
6.8sx Cement 2560'
Circ. Perfs.
2339'
52sx Cmt. in 5 1/2" Csg.
18.5sx Cement in OH below Csg. Shoe
MUD
TOC @ 3550'

4768'
11sx Cement (Inside Casing Above Retainer)
Cement Retainer @ 4865'
64sx Cement (Below Retainer - Inside Casing and 4 3/4" Open Hole)
Top of Whipstock @ 4998'
CIBP @ 5010'
5294'
5780' MD
5142' TVD

Directional Gyro Survey At TD

	MD	Dir.	TVD	Nt/S-	Et/W-	Closure	Direction
Drill	5780'	50.8	5142'	1440.2	t539.9	696.6	50.80
Log	5762'		5142'				

COMPANY: PETRAL EXPLORATION

WELL: #2 KNOCKANDO UNIT

FIELD: WILDCAT

COUNTY: SAN JUAN STATE: UTAH

COUNTY: SAN JUAN

Field: WILDCAT

Location: 2018' FSL & 1388' FWL

Well: #2 KNOCKANDO UNIT

Company: PETRAL EXPLORATION

Schlumberger

2018' FSL & 1388' FWL

LATTITUDE: 37.55419

LONGITUDE: -109.21726

Elev.: K.B. 5034 F

G.L. 5022 F

D.F. 5033 F

Permanent Datum: GROUND LEVEL

Elev.: 5022 F

Log Measured From: KELLY BUSHING

12.0 F above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 43 037 31780

SECTION 19

TOWNSHIP 37S

RANGE 25E

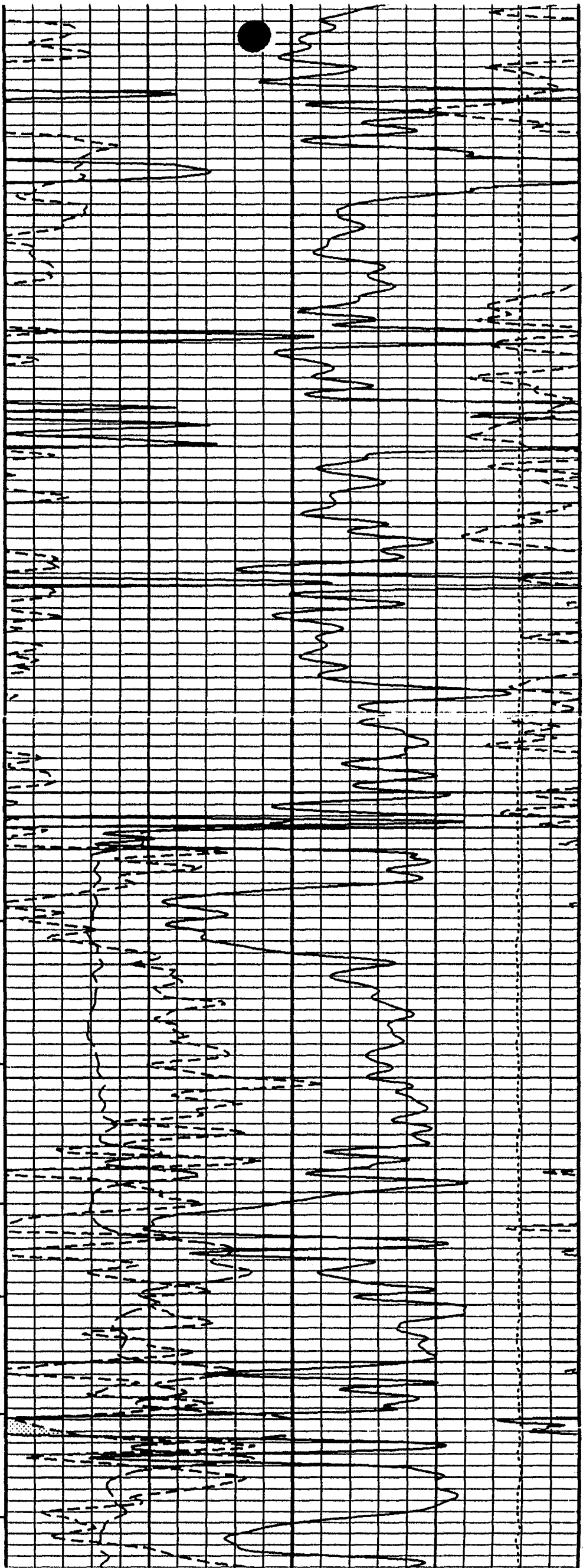
Logging Date	21-OCT-1996		
Run Number	ONE		
Depth Driller	5451 F		
Schlumberger Depth	5443 F		
Bottom Log Interval	5435 F		
Top Log Interval	2507 F		
Casing Driller Size @ Depth	8.625 IN	@	2510 F
Casing Schlumberger	2507 F		
Bit Size	7.875 IN		
Type Fluid In Hole	LSND		
Density	Viscosity	10.4 LB/G	58 S
Fluid Loss	PH	10.5 C3	10.5
Source Of Sample	PIT		
RM @ Measured Temperature	0.252 OHMM	@	68 DEGF
RMF @ Measured Temperature	0.189 OHMM	@	68 DEGF
RMC @ Measured Temperature	0.378 OHMM	@	68 DEGF
Source RMF	RMC	CALCULATED	CALCULATED
RM @ MRT	RMF @ MRT	0.145 @ 123	0.109 @ 123
Maximum Recorded Temperatures	123 DEGF		
Circulation Stopped	Time	21-OCT-1996	22:30
Logger On Bottom	Time	22-OCT-1996	3:52
Unit Number	Location	3020	FARMINGTON
Recorded By	SAMANTHA M. WILLIAMS		
Witnessed By	WYNNE & KIDNEIGH		

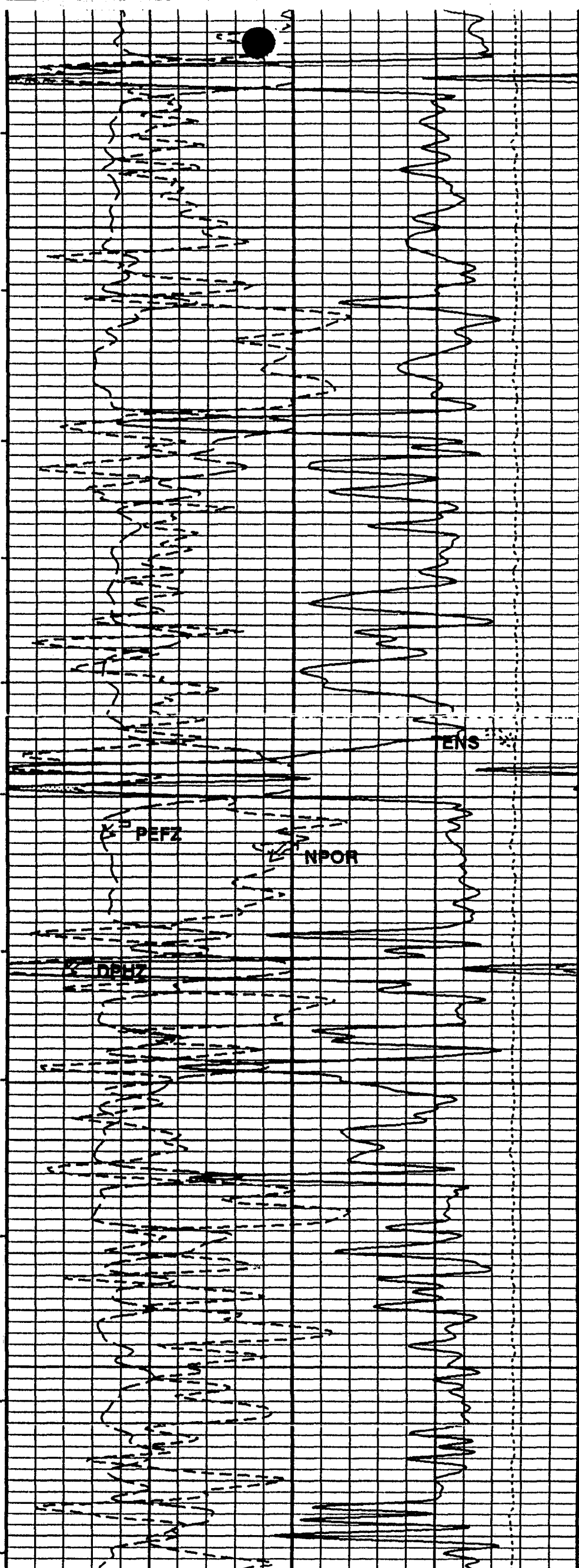
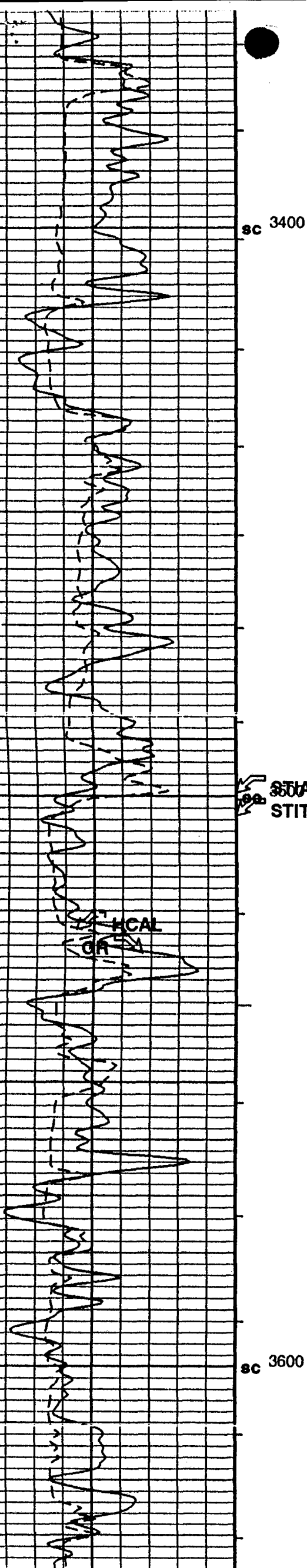
sc 2400

Last Reading
sc 2500

Casing

sc 2600





UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or reenter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

5. Lease Serial No.

UTU-075897

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA/Agreement, Name and/or No.

N/A

8. Well Name and No.

Knockando #2

9. API Well No.

43-037-31780

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, Utah

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Petral Exploration, LLC c/o ENMARC, INC. (E.K. Bostick)

3a. Address

P.O. Box 7638, Loveland, CO 80537

3b. Phone No. (include area code)

(970) 663-7576

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface: 2018' FSL & 1388' FWL Sec. 19 T37S R25E

BHL: 2478' FSL & 1950' FWL Sec. 19 T37S R25E

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize <input type="checkbox"/> Deepen <input type="checkbox"/> Production (Start/Resume) <input type="checkbox"/> Water Shut-Off
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Reclamation <input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair <input type="checkbox"/> New Construction <input type="checkbox"/> Recomplete <input checked="" type="checkbox"/> Other P&A
	<input type="checkbox"/> Change Plans <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Temporarily Abandon <input type="checkbox"/> Operations Report
	<input type="checkbox"/> Convert to Injection <input type="checkbox"/> Plug Back <input type="checkbox"/> Water Disposal

13. Describe Proposed or Completed Operations (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once Testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

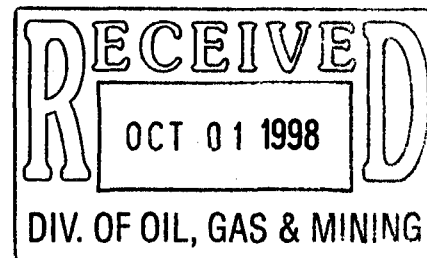
See attached Plug and Abandon Operations Report.

Lease Road and Location will be Seeded in October, 1998 as per BLM Requirements

cc: 3 - BLM Moab

1 - BLM Monticello

1 - Utah Division of Oil, Gas & Mining



14. I hereby certify that the foregoing is true and correct

Name (Printed/Typed)

E.K. Bostick

Title

Agent for Petral Exploration LLC

Signature

Date

September 29, 1998

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**PETRAL EXPLORATION LLC
KNOCKANDO UNIT #2
BLM P&A REPORT**

Operations are for Previous day 24 hrs. ending 12:00 midnight.

8-11-98 Day 1

SITP: 1200psi. SICP: 1300psi.

Operations: MI & RU Big A W/S Rig #8 and Eqpt. RU Lines. Blow down Tbg. & Csg. To 0psi. Recovered est. 6 bbls. oil. Close well in. SWIFN. Jeff Brown (BLM) on location today.

Planned Operations for Today: POOH & LD Rods and Pump. Circulate oil out of the hole. POOH Tbg.

Charlie Jossens met with Gary Crowley (Crowley Construction) and Jeff Brown (BLM). They went to the 1-A (RD) Dalmore Fed. and 2-23 (RD) Bradford Canyon Unit to look at locations and plan for their reclamations.

8-12-98 Day 2

SITP: 30psi. SICP: 20psi.

Operations: Safety Meeting. Bled off Pressure from well. Hanged Rods Off Pumping Unit. Unseated Pump. POOH & LD Rod String and Pump. ND Wellhead. NU BOP. Released TAC. POOH Tbg. SLM. LD TAC, Perf. Pup & CSN. RU Wireline Truck. RIH 4.75" OD Gauge Ring to 4875' KB. POOH & RD Wireline Truck. PU "Arrow" Cement Retainer. RIH on Tbg. And set at 4865' KB. Pressure Test Tbg. To 2000psi. OK. Sting Out of Retainer. Roll Hole w/ 120 bbls. Clean Water. Recovered approx. 2 bbls. Oil. Pressure Test BOP & Casing to 500psi. OK. Sting into Retainer. Establish rate into Upper Ismay Formation 2 BPM @ 1000psi. Check Surface Casing. ¼ BPM Steady Water Flow. SWIFN. Jeff Brown w/ BLM on Location to Witness Operations.

8-13-98 Day 3

SITP: 0psi. SICP: 0psi.

Operations: Sting Into Cement Retainer At 4865'. Pump 64sx Class "B" Cement Below Retainer 2 BPM @ 1100psi.. Sting Out of Retainer. Spot 11sx Cement on top of Retainer. POOH. Unflange Wellhead. PU 5 ½" Spear. Engage Spear in 5 ½" Casing. Pull Casing Out of Slips. Calculated Pipe Movement with Free Pipe to 2100' - 2300'. Did Not Run Wireline Free Point. Flanged Up Wellhead. Released Spear. RIH w/ Tbg. To 4700'. Mixed and Pumped 51 bbls. 10#/gal. Mud Spacer 4700' to 2600'. POOH Tbg. LD 71 Jts. Tbg. SWIFN.

*Jeff Brown w/ BLM on Location to Witness Operations.

*Dismantled and Loaded Out Pumping Unit.

Planned Operations for Today. Perforate 5 ½" Casing Below Surface Casing Shoe. Set Cement Retainer and Squeeze Base of Surface Casing.

****Crowley Construction Moved On 2-23 (RD) Bradford Canyon Unit Location to Start Reclamation.**

8-14-98 Day 4

SICP opsi.

Water Flow from 5 1/2" X 8 5/8" Annulus

Operations: RIH w/ Wireline. Perforate 3 Shots @ 2700' (Change in plans at request of BLM). PU "Arrow" Cement Retainer on Tubing. RIH & Set Retainer @ 2630'. Spot Cement to EOT. Sting Into Retainer. Pump 82sx Cement Below Retainer. Sting Out of Retainer. Pump 26sx Cement On Top of Retainer. Pump 10#/gal. Mud Spacer to Surface. POOH Tbg. Slight Water Flow from 5 1/2" X 8 5/8" Annulus. SWIFN. WO Cement to Set.

*Jeff Brown (BLM) On Loc. To Witness Operations.

**Crowley Construction Working on 2-23(RD) Bradford Canyon Unit Reclaim.

8-15-98 Day 5

Water Flow from 5 1/2" X 8 5/8" Annulus

Operations: Open Surface Casing. Water Flow at 0.10 BPM. RIH w/ Wireline. Tag Top of Cement Plug @ 2335'. Pull Up and Perforate 3 shots @ 2300'. Pump 2 bbls. Water Down 5 1/2" Casing to Establish Circulation. PU "Arrow" Cement Retainer on Tubing. RIH and Set Retainer @ 2256'. Pump 135 sx "B" Cement above Perfs. In 5 1/2" X 8 5/8" Annulus Holding 300psi. @ Surface. Closed Surface Valve and Squeezed 30sx Cement Below Perfs. (1800psi Squeeze.) Stung Out of Retainer. POOH & LD Tbg. Top of Plug @ 1482'. Bottom of Plug @ 2482'. Left Surface Casing Shut In 2 hrs. Checked and NO Water Flow. RIH w/ Wireline and Perforate 3 shots @ 60'. Pump 24sx Cement Surface Plug. Half In 5 1/2" Casing and Half In 8 5/8" Annulus. Dig out and Cut Off Wellhead and Anchors. RD Pulling Unit.

*Marker Plate will be Welded On Tuesday 8-18-98.

**Jeff Brown (BLM) On Loc. To Witness Operations.

***Moved Dozer & Trackhoe to 1-A (RD) Dalmore Fed. Roustabouts Removed Bird Netting & Fence. Hauled 260 bbls. Water From Pit. Started Backfill of Reserve Pit.

8-16-98 Day 6

Operations: Started Aeration of Reserve Pit.

**Continued Backfill of Reserve Pit @ 1-A (RD) Dalmore Fed.

8-17-98 Day 7

Well is Plugged

Operations: Moved Out Pulling Unit, Frac Tank & Cement Eqpt. Continue to Aerate Reserve Pit. RW Trucking started to Haul Water from Reserve Pit. Sent Wellhead Eqpt. to Wood Group Pressure Control in Farmington. Amerigas Picked Up their Propane Tanks (that were released last February).

1-A (RD) Dalmore Fed.

Finished reclamation of Reserve Pit. Moved Eqpt. to 2-23 (RD) Bradford Canyon Unit.

* Jeff Brown (BLM) On Location Today.

8-20-98

Welded Marker Plate on Surface Casing.

Moved Track Hoe to Location.

PETRAL EXPLORATION LLC
Knockando Unit #2 P&A

Page 3

8-21-98

Started Location and Reserve Pit Reclamation.

8-27-98

Location and Reserve Pit Reclamation is Complete.
Jeff Brown (BLM) Inspected and Approved Work Done at Site.